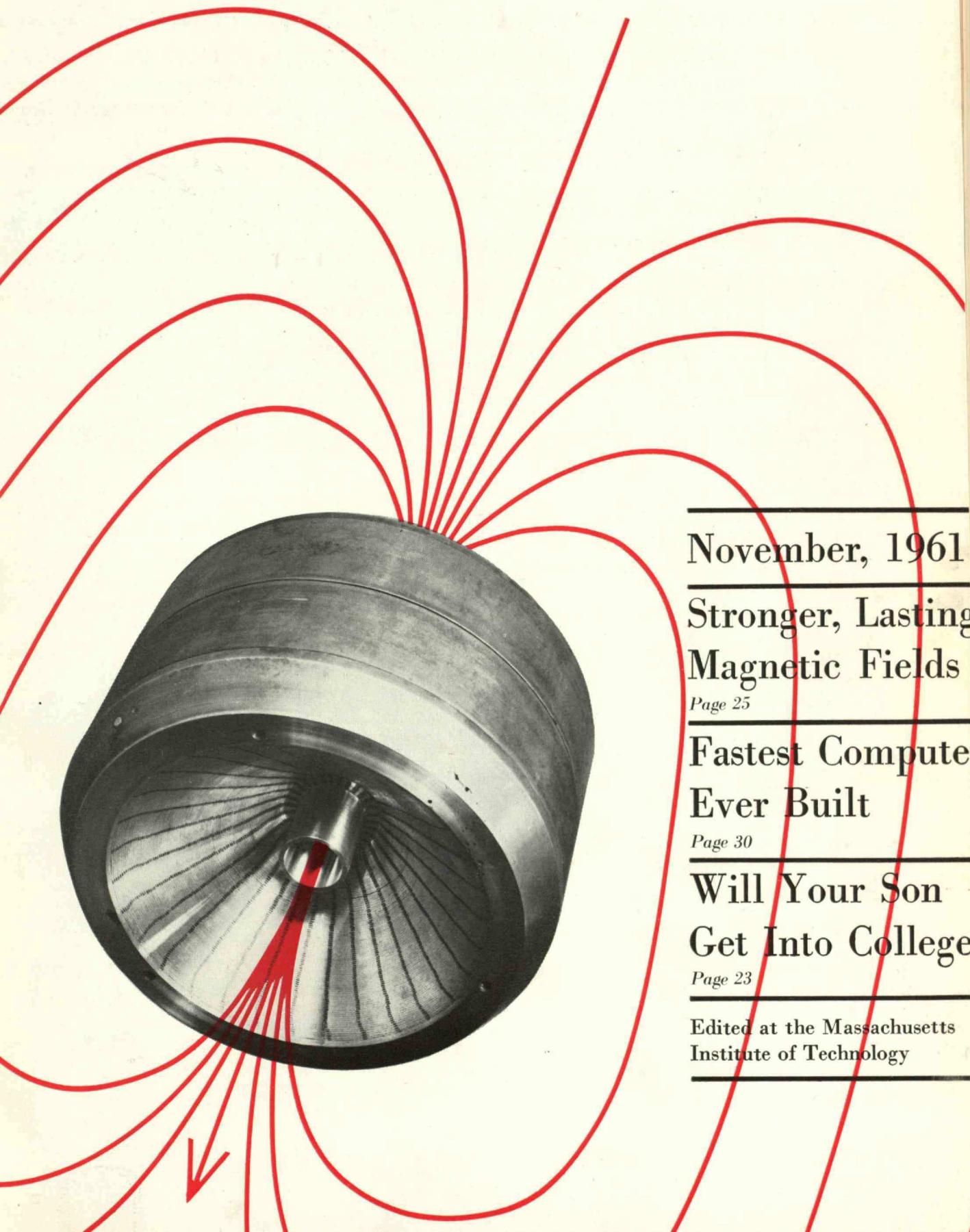


Technology Review



November, 1961

Stronger, Lasting
Magnetic Fields

Page 25

Fastest Computer
Ever Built

Page 30

Will Your Son
Get Into College

Page 23

Edited at the Massachusetts
Institute of Technology

technology review

Published by MIT

This PDF is for your personal, non-commercial use only.

Distribution and use of this material are governed by copyright law.

For non-personal use, or to order multiple copies please email
permissions@technologyreview.com.

UNDER CONSTRUCTION 545 TECHNOLOGY SQUARE

adjacent to the Massachusetts Institute of Technology campus, Cambridge, Massachusetts

Enhancing a location in the educational and research center of the nation . . . C-E-I-R, Inc. will install in 545 Technology Square the world's largest commercial computing center. ■ A limited amount of space is available in 545 Technology Square for occupancy in June, 1963. Leasing of 575 Technology Square is underway in units from 5,000 square feet.

Cabot, Cabot & Forbes Co., 60 State St., Boston 9, Mass. H Hubbard 2-5440 ■ Offices also in Philadelphia, Pa. & Los Angeles, Cal.



CABOT, CABOT & FORBES CO.



Why this is the only carbon black that wears a crown

Recently, Cabot introduced a new kind of carbon black to the rubber industry. We called it Regal and symbolized it with a crown. That's it in the picture. Regal blacks are designed to replace a more expensive grade of black in certain rubber reinforcing applications. Thanks to a revolutionary — if we do say so — manufacturing process, one of these blacks now actually saves the rubber customer \$500 per carload.

So now you know why Regal wears a crown. If these aren't king-size savings, what are they?

But Cabot has far more than crowns to talk about. As an internationally known producer of chemicals for industry, we serve up a king-size assortment of raw materials which can help you realize not only a better product . . . but a better profit as well.

For instance:

For Industry, from Cabot:

CARBON BLACK — the world's most complete range . . . more than 50 different grades, each with a specific industrial use.

CAB-O-LITE® (Cabot wollastonite) — as a paint pigment, this versatile, uniform calcium silicate has more desirable properties than other extenders used singly or in combination. Excellent for all types of paint, and for all types of ceramics.

PT® PINE TAR PRODUCTS — these versatile quality controlled materials improve the performance of a wide variety of products, in-

cluding: rubber, paint, cordage, oakum and insecticides.

CAB-O-SIL® — this unique airborne silica, in extremely small amounts, greatly improves an enormous variety of products. Remarkable for its unusual combination of properties, it's equally effective as a thixotropic, thickening, gelling, suspending, flattening, reinforcing, anticaking, and antislip agent. Used in plastics, lubricating oils, greases, paints, varnishes, lacquers, rubber, sulfur, insecticides, pharmaceuticals, cosmetics, and many other products.

OTHER PRODUCTS INCLUDE: CHARCOAL, CHARCOAL BRIQUETS, OIL, NATURAL GAS, NATURAL GASOLINE, LIQUEFIED PETROLEUM GASES, EARTH MOVING EQUIPMENT, PORTABLE WELL DRILLING AND SERVICING EQUIPMENT, OIL FIELD PUMPING EQUIPMENT, STEEL FABRICATION AND GUN TUBES.

For complete information, phone or write:



CABOT CORPORATION

125 HIGH STREET, BOSTON 10, MASSACHUSETTS

Cabot — an internationally known producer of chemicals for industry.



WE ARE LOOKING FOR THE MAN WHO COULD WORK HIS WAY OUT OF A MAZE

A MAN WHO: (1) has an unfettered mind, (2) is willing to try radical new approaches, (3) thrives in an atmosphere of constructive creativity and freedom of thought, (4) is looking for scope for growth, (5) wants individual recognition, (6) would be inspired to greater achievement through working with leading, nationally recognized scientists, (7) is looking for a company large enough to offer the most advanced equipment and extensive support services, but small enough to recognize his importance, (8) wants to help forge the future.

Creative Senior Scientists sought to work with **Dr. Steven M. Sussman**, Head of the Communications Theory Laboratory or **Dr. Bernard Friedland**, both at Melpar's Applied Science Division.

(1) Communications Theory. Perform logical design of digital data processing in implementation of coding techniques for communications systems, working closely with computer programmers on system simulation, B.S. or M.S. degree in E.E. (2) Evolve techniques for communication over channels with additive and multiplicative disturbances and doppler shift with particular emphasis on synchronization methods. M.S. or Ph.D. degree in E.E. (Communications Theory). **(3) Control Systems Design Theory.** Perform theoretical investigations of problems in Control Systems Design. Background required in E.E. and Applied Mathematics including differential equations, numerical methods, classical analysis, and analog and digital computer principles. M.S. or Ph.D. in E.E. or Applied Mathematics.

For information on the two positions in Communications Theory write or phone Dr. Steven Sussman, Head, Communications Theory Laboratory. Further information on the Control Systems Design Theory position is available through Dr. Bernard Friedland. Correspondence and inquiries will be held in strictest confidence.

APPLIED SCIENCE DIVISION



MELPAR INC

A Subsidiary of Westinghouse Air Brake Co.

11 Galen Street,
Watertown, Mass.
WAtertown 3-9700

Technology Review

Reg. U.S. Pat. Off.

Volume 64, Number 1

Edited at the Massachusetts Institute of Technology

November, 1961

Feedback

The Most Wanted Class?

FROM JOSEPH S. KAMING, JR., '56

Our national attention is constantly being directed to a shortage of engineers and scientists. Insight into this problem can be gained by reviewing the experiences of the M.I.T. Class of 1956. The class was heralded upon graduation by a feature article in *Life* magazine, "A Quest For Quality In Scientists" (May 7, 1956), and patronized by a then existing economic boom and imagined American technological superiority. To pre-graduation interviewers, this was the nation's "most wanted" class. Now unfortunately the class members, generally, find themselves wanting of opportunity to use their education. The occupational demands upon them are far less than talent consuming.

The fifth reunion of the '56 class, held this June, disclosed something other than buoyant optimism. Underutilization of talent, combined with unpredictable defense industry layoffs and a personalized awareness that the politics of business control the quality of engineering, evokes from the graduates an unglamorized evaluation of their profession.

The class members are not dissatisfied with their M.I.T. education. In retrospect, the education—expansion of thought from the infusion of new ideas, development of technical skills and knowledge, the discipline of persistence and intense concentration, exposure to a certain portion of inspiring faculty members, and acquaintance with an exceptionally select student body—is characterized as excellent by the majority of the '56ers. They would send their children to M.I.T.—Tech, money and children willing.

What the Tech men are disappointed about is the lack of opportunity to use their education. Engineering and science do sift the unknown, extracting its fascinations; however, the vast majority of technical positions are decidedly ancillary to the
(Continued on page 66)



In fine form after a summer spent taking photos below the sea, Professor Harold E. Edgerton, '27, addressed the Class of 1965 this fall. Here you see him showing one of his many examples of high-speed photography. To see the freshmen, please turn to pages 19 and 24.

EDITOR: Volta Torrey; BUSINESS MANAGER: R. T. Jope, '28; CIRCULATION MANAGER: D. P. Severance, '38; EDITORIAL ASSOCIATES: J. J. Rowlands, Francis E. Wylie, John I. Mattill; EDITORIAL STAFF: Ruth King, Joan B. Brassert, Roberta A. Clark; BUSINESS STAFF: Madeline R. McCormick, Patricia A. Fletcher; PUBLISHER: H. E. Lobdell, '17.

The Technology Review is published monthly from November to July inclusive, on the 27th day of the month preceding the date of issue, by the Alumni Association of M.I.T.; D. Reid Weedon, Jr., '41, President; H. E. Lobdell, '17, Executive Vice-president; Thomas F. Creamer, '40, Carroll L. Wilson, '32, Vice-presidents; Donald P. Severance, '38, Secretary-Treasurer. Copyrighted, 1961, by the Alumni Association of M.I.T.

Office of publication 10 Ferry Street, Concord, N. H. Editorial and business offices are in Room 1-281, Massachusetts Institute of Technology, Cambridge 39, Mass.

An annual subscription in the U.S. is \$4.00; in Canada and elsewhere, \$4.50; a single copy, 60 cents. Three weeks must be allowed to effect a change of address, for which both the old and the new address should be given.

All correspondence, Editorial and Advertising Matter, Change of Address Notices, Subscription Orders should be addressed to

THE TECHNOLOGY REVIEW
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

POSTMASTER—Undeliverable copies return to
The Rumford Press, 10 Ferry Street, Concord,
N. H.

Second-class postage paid at Concord, N. H.
PRINTED IN USA

Contents

The Cover

The magnet shown produced the most powerful continuous field yet attained, and is further described on page 25.

Individuals Noteworthy 4

New members of M.I.T.'s Corporation and others who have made news.

The Trend of Affairs 19

A computer teaches freshmen, and understands English; more such machines will soon be next door to the Institute.

Getting Into College 23

A national problem is discussed by Amherst's admissions authority.

A New Magnetic Record 25

The new Magnet Laboratory plans to eclipse its recent feat.

A New Particle Detector 26

Spark chambers aid the search for neutrinos and other strange things.

Wingerson's Corkscrew Effect 27

An M.I.T. student finds a way to remove one obstacle to fusion.

Blood's Behavior Is Disclosed 29

A device invented at M.I.T. is used in medical research.

This Year's Fastest Computer 30

Lincoln Laboratory's FX-1 has a high clock rate and a fast memory.

Books 34

Professor Giorgio D. deSantillana answers some questions about science.

Khrushchev's Ticket 35

An M.I.T. student of communism discusses the party's new program.

Institute Yesteryears 38

Items that were news at M.I.T. 25, 50, and 75 years ago.

Staff News 40

Two Alumni join three others as Institute Vice-presidents.

Individuals Noteworthy

Corporation Members

THE ELECTION of two life members, four Alumni to serve five-year terms, and one ex-officio member of the M.I.T. Corporation was announced in July by Chairman James R. Killian, Jr., '26.

The new life members are *Edward J. Hanley*, '24, President and Director of the Allegheny Ludlum Steel Corporation, and *Robert A. Lovett*, former Secretary of Defense and a bank executive in New York City. Mr. Hanley was president of the Alumni Association in 1959-1960, and has been an alumni term member of the Corporation since 1956. Mr. Lovett, a Yale graduate, served as a special term member of the Corporation from 1955 to 1960.

The Alumni elected to serve five-year terms are *U. A. Whitaker*, '23, President, Treasurer, and Director of Aircraft-Marine Products in Harrisburg, Pa.; *John R. Kimberly*, '26, Chairman of the Board of the Kimberly-Clark Corporation in Neenah, Wis.; *Robert B. Semple*, '32, President of the Wyandotte Chemicals Corporation of Wyandotte, Mich.; and *William B. Bergen*, '37, Presi-

dent of the Martin Company in Baltimore.

D. Reid Weedon, Jr., '41, who is now President of the Alumni Association, will serve for one year as ex-officio member. Mr. Weedon is vice-president of Arthur D. Little, Inc., of Cambridge.

CERN's Director General

ON AUGUST 1, Professor Victor F. Weisskopf, on leave of absence from M.I.T., took office as the Director General of CERN, the European Organization for Nuclear Research in Myrin, near Geneva, Switzerland. CERN has an annual budget of nearly \$16,000,000 and operates as part of its research program a 28 billion-electron-volt proton accelerator. (Work being done with it is described on page 26.)

Professor Weisskopf succeeds John B. Adams of England in this post, which he will hold for two years. His appointment was considered extraordinary because he is an American citizen and the United States is not a member of CERN.

Before coming to this country, Professor Weisskopf worked with



FRANK G. DENISON, '40, a naval architect, is Lunar Systems Manager of Ford's Aeronutronic Division, responsible for designing and building the first instrumented package which the U.S. plans to land on the moon sometime next year.

Werner Heisenberg, Erwin Schrödinger, Wolfgang Pauli, and other noted physicists in Europe. He received the Max Planck medal of the German Physical Society in 1956, and was president last year of the American Physical Society.

Planners for Venezuela

THE Joint Center for Urban Studies of M.I.T. and Harvard has appointed Norman Williams, Jr., as over-all director, and Wilhelm V. von Moltke to be in charge of urban design, on the \$900,000 project it has undertaken for the Corporacion Venezolana de Guayana.

The Center's staff will prepare an economic development program for Venezuela's entire Orinoco valley and a general plan for a new industrial city to be called Santo Tomas de Guayana.

Mr. Williams was formerly chief of the office of master planning of New York City, and was visiting professor of city planning at M.I.T. last year. Mr. von Moltke was formerly on the staff of the Philadelphia Planning Commission and recently completed a year as visiting critic on urban design at Harvard.

(Continued on page 6)



ROBERT C. MEISSNER, '43, pictured (at left) with President Joaquin Balaguer of the Dominican Republic, heads the firm retained to develop a Dominican Republic deposit of high-grade iron ore which is believed to be the largest in the Western Hemisphere. Mr. Meissner's home office is in Chicago.

"AS GOOD AS KERITE?"

We have Kerite cable that has been in service for well over 40 years. We think Kerite has the best designed signal and power cables that are made. Furthermore, we know that Kerite will stand back of its cable under any circumstances.

Now, what do you mean, "as good as Kerite"?

ENGINEERING OFFICES



Increased technical responsibilities in the field of range measurements have required the creation of new positions at the Lincoln Laboratory. We invite inquiries from senior members of the scientific community interested in participating with us in solving problems of the greatest urgency in the defense of the nation.

**RADIO PHYSICS
and ASTRONOMY**

RE-ENTRY PHYSICS

**PENETRATION AIDS
DEVELOPMENT**

**TARGET IDENTIFICATION
RESEARCH**

SYSTEMS:

Space Surveillance
Strategic Communications
Integrated Data Networks

NEW RADAR TECHNIQUES

SYSTEM ANALYSIS

COMMUNICATIONS:

Techniques • Psychology • Theory

INFORMATION PROCESSING

SOLID STATE

Physics, Chemistry, and Metallurgy

- *A more complete description of the Laboratory's work will be sent to you upon request.*

All qualified applicants will receive consideration for employment without regard to race, creed, color or national origin.



Research and Development

LINCOLN LABORATORY

Massachusetts Institute of Technology

BOX 28

LEXINGTON 73, MASSACHUSETTS

Individuals Noteworthy

(Continued from page 4)

Honors from Schools

RECIPIENTS, honorary degrees, and institutions bestowing them include:

Robert E. Wilson, '16, of laws, the American University . . . Crawford H. Greenewalt, '22, of laws, Swarthmore College . . . Latimer F. Hickernell, '22, of engineering, Polytechnic Institute of Brooklyn;

Chaplin Tyler, '23, of science, Northeastern University . . . James C. Evans, '25, of humane letters, The Agricultural and Technical College of North Carolina . . . Claude E. Shannon, '40, of science, the University of Michigan.

Research Fellows

TEN ALUMNI hold Ford Foundation post-doctoral fellowships in Engineering at M.I.T. this year. They are *William G. Moffatt, '53, Paul E. Gray, '54, Frederic R. Morgenthaler, '55, Charles C. Robinson, '55, James G. Gottling, '56, John P. Penhune, '57, Robert M. Rose, '58, Paul L. Penfield, Jr., '60, George Zames, '60, and Thomas R. Clevenger, Jr., '61.*

(Continued on page 10)

H. H. Hawkins

& Sons, Co.

236 Washington Street

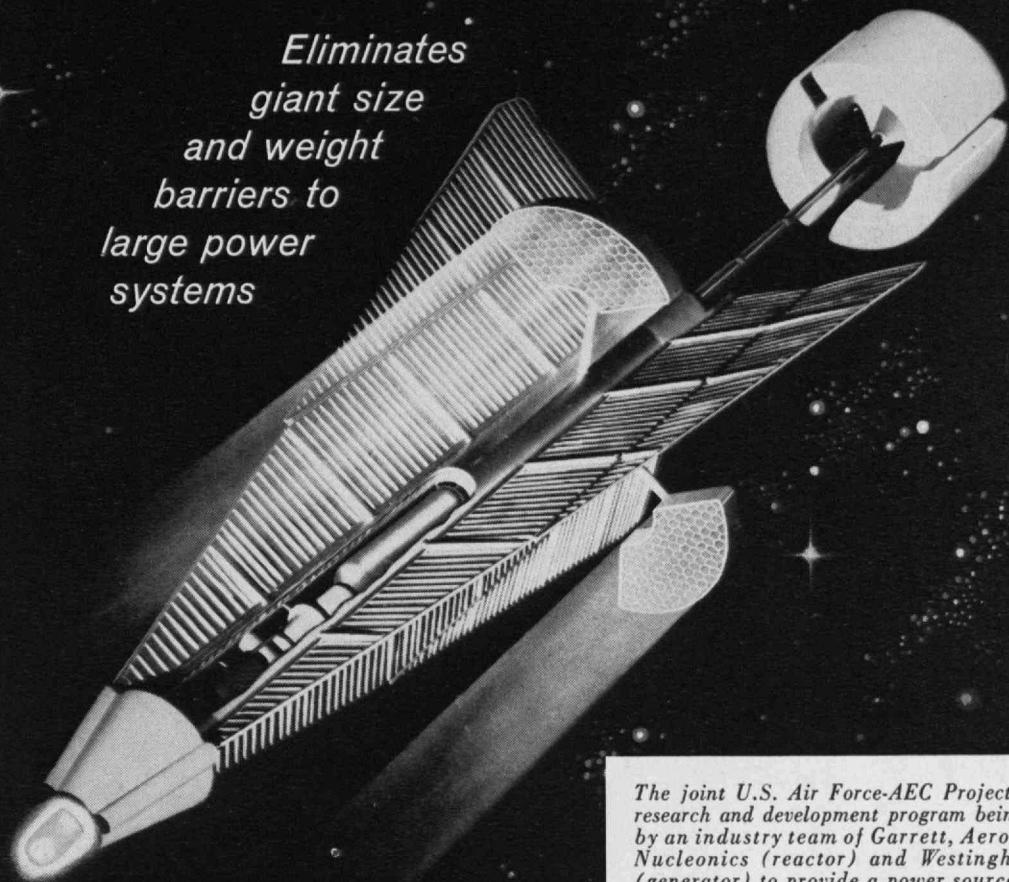
Newton, Mass.

Builders

GARRETT-U.S. AIR FORCE 'SPUR'

..one answer to America's future power needs in space

*Eliminates
giant size
and weight
barriers to
large power
systems*



The joint U.S. Air Force-AEC Project SPUR is a research and development program being conducted by an industry team of Garrett, Aerojet-General Nucleonics (reactor) and Westinghouse, Lima (generator) to provide a power source to produce 300-1000KW electrical power in space for one year or more. Power is obtained by conversion of nuclear fission energy to mechanical (shaft) power with a potassium vapor turbine. Equipment includes: reactor, primary and secondary loop pumps, boiler, turbo-generator and condenser-radiator.

Long lead time is essential to the development of large nuclear space power systems. Present methods of power generation would require an impractical heat rejection surface nearly the size of a football field for a power output of one megawatt—power which will be needed for critical space missions already in the planning stage.

Garrett's AiResearch Divisions have

now completed the initial SPUR design studies and proved the project's feasibility to supply continuous accessory power and low thrust electrical propulsion in space for long periods of time.

Cutting projected 1 MW power systems to 1/10th the size and 1/5th the weight of present power systems under development will be possible because of SPUR's capability to operate at higher temperatures, thereby sharply reducing the required radiator area.

Garrett has been working with the Air Force and the Atomic Energy Commission on SPUR as the prime contractor for more than one year and has more than five years of experience in space nuclear power development. Also an industry leader in high speed rotating machinery, heat transfer equipment, metallurgy and accessory power systems, the company is developing design solutions for SPUR in these critical component system areas.

THE GARRETT CORPORATION
AiResearch Manufacturing Divisions

Los Angeles 45, California • Phoenix, Arizona

Systems and Components for: AIRCRAFT, MISSILE, SPACECRAFT, ELECTRONIC, NUCLEAR AND INDUSTRIAL APPLICATIONS

100th C-E Controlled Circulation Steam Generator in Service

Here, at the Allen Plant of the Duke Power Company, Belmont, N. C., an important milestone was reached late last year when C-E's 100th Controlled Circulation Steam Generator was placed in service. This is the fourth such unit to be installed at Allen and a fifth is now under construction. Duke Power Company also has units of this type installed in four other generating stations.



HOW C-E HELPS MAKE ELECTRICITY

Since fuel cost is the largest single item of expense in the generation of electric power, the use of less fuel per unit of electricity produced is of interest to all—residential and industrial consumers alike. And C-E's Controlled Circulation Steam Generator has helped many of the nation's leading electric utilities to reduce fuel costs per kilowatt-hour, thereby keeping electricity America's biggest bargain.

With a design that provides controlled, positive fluid flow through miles of tube circuitry, the C-E Controlled Circulation unit has encouraged and

facilitated the use of higher steam pressures. And with higher pressures, less fuel is required to produce a kilowatt-hour of electricity. The result—a major contribution to low cost power, even in face of continuing inflation.

Most high capacity steam generators of recent years have been designed for high pressure operation—in the range of 2400-2550 lbs. per sq. in. And most of these units—not only in this country but also in Australia, Canada, England, France, Italy and Japan—have been C-E Controlled Circulation Steam Generators. So wide has been the



AMERICA'S BIGGEST BARGAIN

acceptance of this design for high pressure utility installations that orders placed during the past decade represent an aggregate capacity of about 30 million kilowatts, or, expressed in dollars, about \$750 million.

Whether your steam requirements be large or small, you can look to C-E for boilers of the most advanced designs.

Background of the Controlled Circulation Steam Generator

The first installation was made in the Somerset Station of the Montauk Electric Company in 1942. Following years of extensive study and test of this pioneering installation, the generator was offered as a fully developed and proven design in 1950. In that year, several large utilities placed orders, the first being from the Virginia Electric & Power Company for its Chesterfield Station. It is interesting to note that Stone & Webster Engineering Corporation, consulting engineers for the original installation at Montauk, were also consultants for the Chesterfield installation. The trend to controlled circulation and higher pressures was under way and was soon to become the most significant trend in contemporary steam power practice.

COMBUSTION ENGINEERING

C-320



GENERAL OFFICES: Windsor, Conn.

NEW YORK OFFICES: 200 Madison Avenue, New York 16

PAPER MILL EQUIPMENT; PULVERIZERS; FLASH DRYING SYSTEMS; PRESSURE VESSELS; SOIL PIPE

The most-demanded portions of the 12-volume *High Speed Aerodynamics and Jet Propulsion* series, now made available at modest cost

PRINCETON AERONAUTICAL PAPERBACKS

Coleman du P. Donaldson, General Editor

1. LIQUID PROPELLANT ROCKETS

David Altman, James M. Carter, S. S. Penner, Martin Summerfield. 196 pages. \$2.95

2. SOLID PROPELLANT ROCKETS

Clayton Huggett, C. E. Bartley, Mark M. Mills. 176 pages. \$2.45

3. GASDYNAMIC DISCONTINUITIES

Wallace D. Hayes. 76 pages. \$1.45

4. SMALL PERTURBATION THEORY

W. R. Sears. 72 pages. \$1.45

5. HIGHER APPROXIMATIONS IN AERODYNAMIC THEORY

M. J. Lighthill. 156 pages. \$1.95

6. HIGH SPEED WING THEORY

Robert T. Jones, Doris Cohen. 248 pages. \$2.95

7. FUNDAMENTAL PHYSICS OF GASES

Karl F. Herzfeld, Virginia Griffing, Joseph O. Hirschfelder, C. F. Curtiss, R. B. Bird, Ellen L. Spots. 149 pages. \$1.95

8. FLOW OF RAREFIED GASES

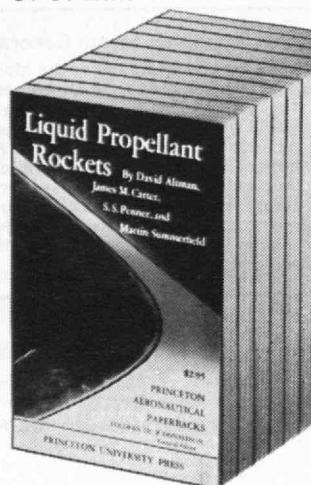
Samuel A. Schaaf, Paul L. Chambre. 63 pages. \$1.45

9. TURBULENT FLOW

Galen B. Schubauer, C. M. Tchen. 131 pages. \$1.45

10. STATISTICAL THEORIES OF TURBULENCE

C. C. Lin. 68 pages. \$1.45



PRINCETON UNIVERSITY PRESS

Dept. TR-11
Princeton, N. J.
Please send me the PRINCETON AERONAUTICAL PAPERBACKS here indicated by number:

I enclose \$_____ in check or money order.

Name _____

Address _____

City _____ Zone _____

State _____

Individuals Noteworthy

(Continued from page 6)

Honors to Alumni

SPECIAL awards to Alumni reported since last July included:

Samuel A. Greeley, '06, the Emerson Award, by the Water Pollution Control Federation, Washington, D.C. . . . *Vannevar Bush, '16*, honorary membership in the American Society for Engineering Education;

Manuel S. Vallarta, '21, membership in the Papal Academy of Science . . . *W. Barton Jones, '22*, a Fellow of the Instrument Society of America . . . *Miles N. Clair, '23*, a Distinguished Citizen Tribute, by the City of Philadelphia;

Samuel Levine, '27, Superior Performance Award, by the U.S. Patent Office . . . *Gordon Bunschaft, '33*, the Medal of Honor, by the New York Chapter, American Institute of Architects . . . *Donald McDonald, '41*, the 1961 Award of Merit, by the National Electronics Conference;

John H. Holland, '50, the Louis E. Levy Medal, by The Franklin Institute . . . *Merton C. Flemings, Jr., '51*, the Peter L. Simpson Gold Medal, by the American Foundrymen's Society.

(Continued on page 44)

BUILDING BY W. J. BARNEY CORP.



Avon Products, Inc.

Shreve, Lamb & Harmon Associates
Architects

Over 70% of our business
is repeat contracts
from such companies as:

Avon Products, Inc. 10 contracts
Canada Dry Ginger Ale, Inc. . . 9 " "
Consolidated Edison 10 " "
New York Telephone Co. . . 16 " "
Chas. Pfizer & Co. 36 " "

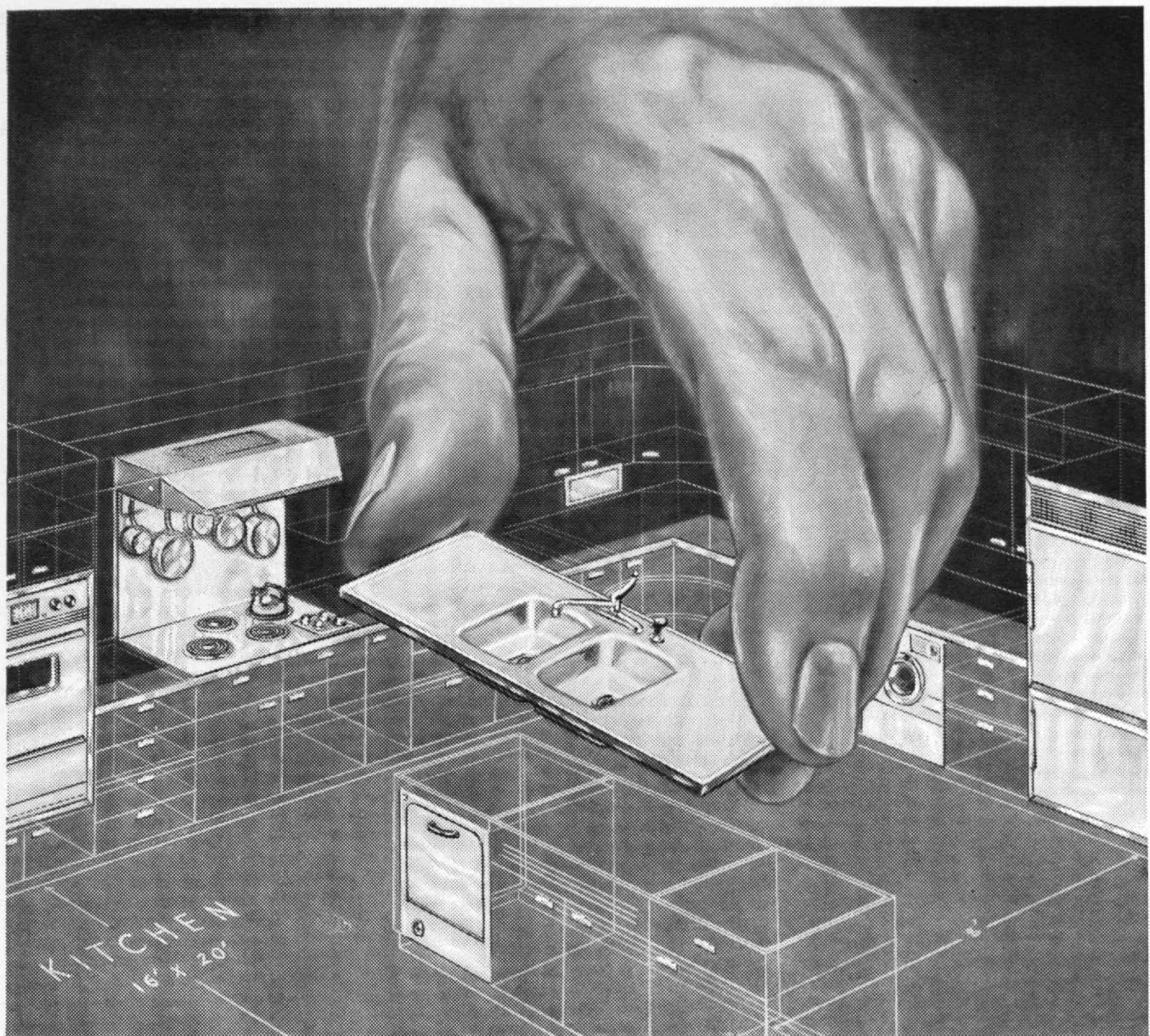
W. J. BARNEY CORPORATION

Founded 1917

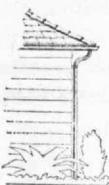
INDUSTRIAL CONSTRUCTION

101 Park Avenue, New York

Alfred T. Glassett, '20, President



Build with the carefree beauty of stainless steel

 Handsome appliances and gleaming counter tops that stay bright and are so easy to wipe clean...even the kitchen sink becomes a thing of beauty when it is made of shining stainless steel — the useful metal that was developed after years of research.

Whether you're building or remodeling, stainless steel gives a lifetime of value . . . saves many dollars in upkeep. You can now have gutters and downspouts that are almost indestructible because they won't rust or rot. And the strength of stainless makes possible door and window screening so fine you hardly know it's there.

The secret of stainless steel lies in chromium—one of many indispensable alloying metals developed by Union Carbide. They are typical of the hundreds of basic materials created through research by the people of Union Carbide in metals, as well as carbons, chemicals, gases, plastics and nuclear energy.

See the "Atomic Energy in Action" Exhibit at the new Union Carbide Building in New York

FREE: Find out how stainless steel enhances the value of your home. Write for "Carefree Living with Stainless Steel" Booklet T-50. Union Carbide Corporation, 270 Park Avenue, New York 17, N.Y. In Canada, Union Carbide Canada Limited, Toronto.

**UNION
CARBIDE**

...a hand
in things to come

DANIEL G. O'CONNOR, *President*

AUSTIN J. O'CONNOR, *Executive Vice-President*

THOMAS O'CONNOR & CO., INC.

STRUCTURAL ENGINEERS

AND BUILDERS

KENDALL SQUARE, CAMBRIDGE, MASS.

UNiversity 8-7330

AUSTIN J. O'CONNOR—'19

THOMAS H. O'CONNOR—'30

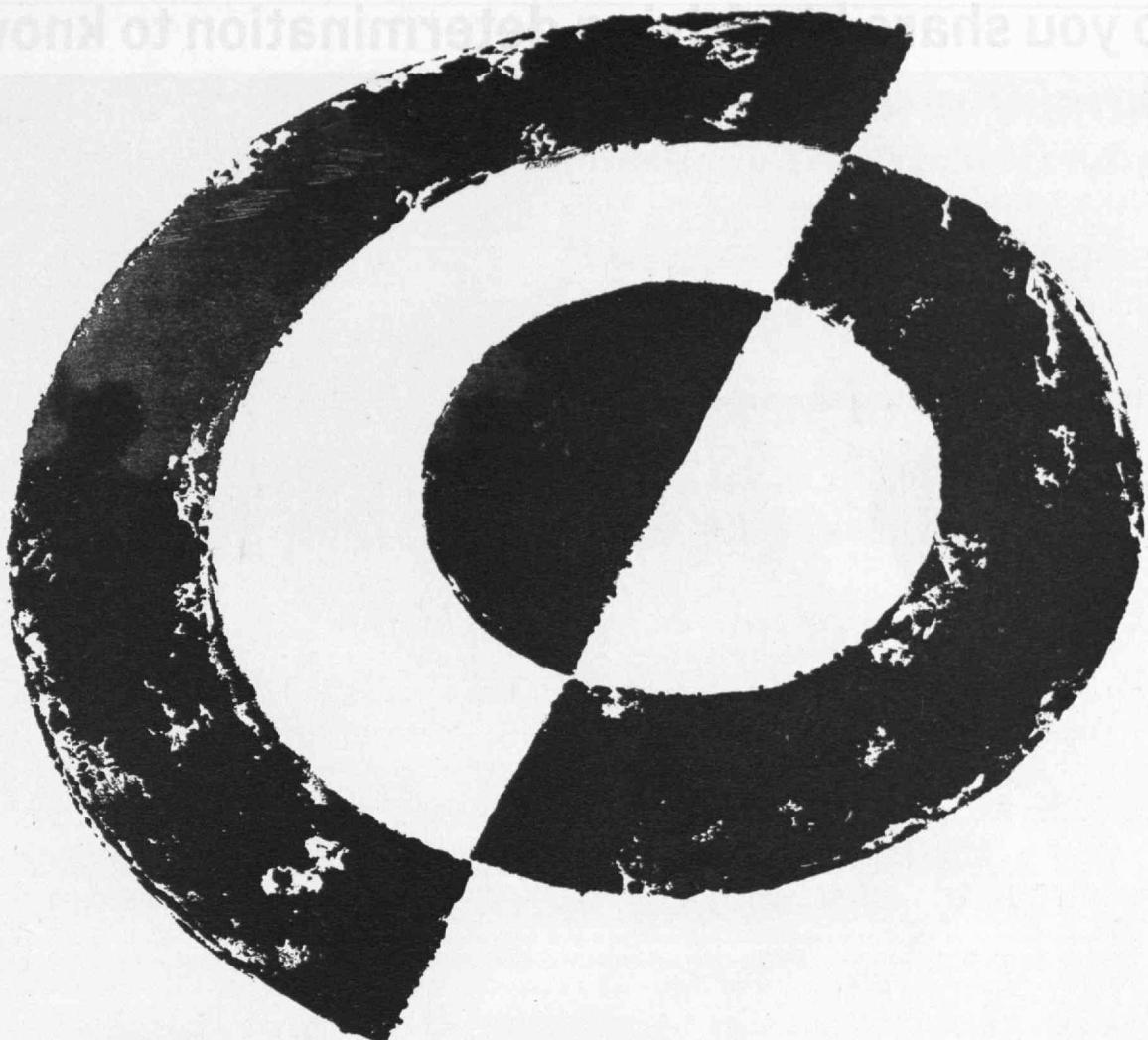
EUGENE T. SULLIVAN—'33

THOMAS F. GALVIN—'33

WILLIAM A. SHEA—'36

THOMAS H. O'CONNOR, *Vice Pres. and Clerk*

THOMAS D. O'CONNOR, *Treasurer*



Said J. Stefan and L. Boltzmann: "The total radiation from a black body is proportional to the fourth power of the absolute temperature of the black body."

Radiation is usually associated with high temperatures. Yet very cold bodies emit a radiation which can be highly significant in missile and space applications. The problem faced by infrared scientists, trying to detect variations in radiation from low temperature atmospheres, can be likened to detecting a one-foot cube of ice from a distance of five miles.

Lockheed Missiles & Space Company scientists are deeply engaged in studying the problems of infrared emission from the earth and its atmosphere, as seen from orbital altitudes. Although the earth resembles a black body at 300° Kelvin, the emission from its atmosphere, under some circumstances, is much colder. To make measurements under these circumstances, Lockheed has evolved radiometric equipment with one of the most sensitive detection systems yet conceived.

Scientists and engineers must also take careful measurements of a potential employer. Lockheed Missiles & Space Company in Sunnyvale and Palo Alto, California, on the beautiful San Francisco Peninsula, invites this close scrutiny. As Systems Manager for the DISCOVERER and MIDAS satellites and the POLARIS FBM, Lockheed preeminence in Missiles and Space creates positions in many disciplines for outstanding engineers and scientists.

Why not investigate future possibilities at Lockheed? Write Research and Development Staff, Dept. M-13F, 962 West El Camino Real, Sunnyvale, Calif. U.S. citizenship or existing Department of Defense industrial security clearance required. An Equal Opportunity Employer.

LOCKHEED MISSILES & SPACE COMPANY

A GROUP DIVISION OF LOCKHEED AIRCRAFT CORPORATION

Systems Manager for the Navy POLARIS FBM and the Air Force AGENA Satellite in the DISCOVERER and MIDAS programs. Other current programs include SAINT, ADVENT and such NASA projects as OGO, OAO, ECHO, and NIMBUS.

SUNNYVALE, PALO ALTO, VAN NUYS, SANTA CRUZ, SANTA MARIA, CALIFORNIA • CAPE CANAVERAL, FLORIDA • HAWAII

Do you share his driving determination to know?



An unsolved problem is a nagging challenge to him. The word "impossible" is an impertinence.

Are you tired of predigested answers? Anxious to get at work no one else has ever done? Then come to Northrop where you can find men like this to grow with. Work side by side with them on such projects as interplanetary navigation and astronertial guidance systems, aerospace deceleration and landing systems, magnetogasdynamics for space propulsion, in-space rendezvous, rescue, repair and refueling techniques, laminar flow control, universal automatic test equipment, and world-wide communications systems.

More than 70 such programs are now on the boards at Northrop, with many challenging problems still to be solved, and new areas of activity constantly opening up for creative research.

If you want to know more about the Northrop challenge, drop us a line at Box 1525, Beverly Hills, California, and mention your area of special interest.

NORTHROP
AN EQUAL OPPORTUNITY EMPLOYER

**ELECTRONIC ENGINEERS
MATHEMATICIANS
PHYSICISTS**

PHILCO TECHREP DIVISION

Now Forming Nucleus Group To Develop & Manage
Systems Engineering On America's Various Defense Projects!

Who Are Ready to GO...and Able to GROW

• Choose From These Key Locations

- Philadelphia, Pa.
- Washington, D. C.
- Pensacola, Fla.
- Boston, Mass.
- Palo Alto, Calif.
- Montgomery, Ala.

plus many other choice U. S. locations

Broadly speaking, the men we are looking for will direct their professional efforts to developing and establishing systems engineering concepts, standards, and criteria for the overall operation of computer equipment and systems.

These are long term career positions offering first rate promotional opportunities to U.S. Citizens "ready to go and able to grow" with America's foremost electronic field engineering organization.

Intermediate and Senior Level Positions Available For Men Who Are Able To Perform Systems Engineering and Development Work In The Following Areas:

- ESS • SAGE • BIRDIE • BOMARC • MISSILE MASTER • ALRI • SEAWARD EXTENSION
- LARGE COMMUNICATIONS SYSTEMS • LOW DATA RATE INPUT • NIKE

REQUIRED QUALIFICATIONS: B.S., M.S., or Ph.D. in Electrical Engineering, Mathematics, or Physics

SALARIES OPEN

PROGRAM SYSTEMS ANALYSTS

To develop requirements and prepare specifications for design evaluation tests, to examine operation of experimental and production models of the system. Design of system tests and special test operating procedures. Will participate in live system testing of various complex systems. Will analyze test data and prepare documents which spell out results and conclusions to be derived from system tests. These conclusions should cover adequacy of the design logic and implementation of equipments, computer programs, and control manning.

RADAR SYSTEMS ENGINEERS

To integrate varied data acquisition equipment into complex electronic control systems.

TELECOMMUNICATIONS ENGINEERS

To design and develop advanced communications subsystems of ground electronic control system complex.

SENIOR PROGRAMMERS

Will be responsible for the overall planning and supervision of computer programs. Will assign, outline and coordinate work of programmers and write and debug complex programs involving mathematical equations. Requires experience in the operation and programming of large electronic data processing systems, such as the AN/FSQ-7N8, IBM 700 series, or Philco 2000 series.

COMPUTER PROGRAMMERS

To develop and/or analyze logic diagrams, translate detailed flow charts into coded machine instructions, test run programs and write descriptions of completed programs. Requires experience in the operation and programming of large electronic data processing systems, such as the AN/FSQ-7N8, IBM 700 series, or Philco 2000 series.

TECHNICAL WRITERS

To write and publish technical reports on Communications, Radar, Fire Control Systems, Electrical and Mechanical Devices and Computers.

CABLE ENGINEERS

To resolve varied grounding and shielding problems of complex electronic equipments.

RADAR DESIGN ENGINEERS

To work on advanced designs—to develop receivers using parametric amplifiers.

SUB-SYSTEMS TEST ENGINEERS

To plan, prepare and generate specifications for sub-systems test, data reduction and analysis programs. Will be responsible for the preparation of test plans, installation of equipment, test instrumentation, collection of test data and analysis of results. Resolve incompatibility and interface engineering problems.

SYSTEMS TEST ENGINEERS

To plan, prepare and generate system test, data reduction, and analysis specifications. Develop methods and procedures for test implementation. Coordinate between interested agencies, and resolve problems between the specifications, test methods and actual procedures in use.

*Direct Resumes In Confidence To
Dept. U*

D. E. DIMMIG
Employment Manager

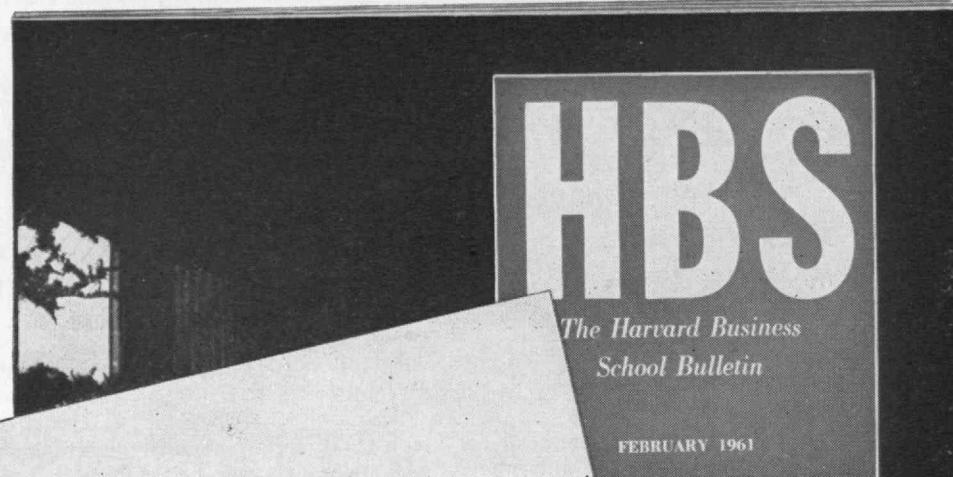
**PHILCO TECHREP
DIVISION**

P. O. Box 4730

Philadelphia 34, Pa.

All Qualified Applicants Will Receive Consideration For Employment Without Regard To Race, Creed, Color, or National Origin.

Why a successful man gave up a career



U

SELL INSURANCE— AND LIKE IT!

With new uses developing for life insurance, both business and personal, an agent's career can be a creative and satisfying one for HBS alumni.

Norman M. Wallack '48, New England Mutual Life Insurance Company, Boston



STANDARD EQUIPMENT for a B-School alumnus is a built-in image of the ideal HBS man: keen, tough-minded, analytical, imaginative, farsighted and resourceful. At the same time, most of us have a mental picture of a life insurance agent: unimaginative, plodding, high-pressure, ill-informed, persistent and annoying.

Given the clash between these two pictures, my Business School friends really raise an eyebrow when they find out that I am one of those "people with endurance" — a man who sells insurance. There are very few graduate business school alumni in my end of the business, much less HBS types, though

of course we have many alumni among the managerial personnel in the industry. So they immediately want to know how I ever ended up in such an occupation, and sit sadly expecting some horror story of a misspent youth and wasted opportunities.

Actually, the facts bear no resemblance to their assumptions. I am in this business because I like it, because I chose it after trying several other types of work, because it offers other kinds of opportunities for ingenuity in developing special insurance programs for particular companies and individuals. In so doing, I have come to the conclusion that businessmen are so

showpiece

in industry to start one in life insurance

Norman Wallack had good reasons.

Here's the first-hand account he gave us after his article had appeared in the Harvard Business School Bulletin—

"After graduation from Harvard Business School, I did well during the next nine years in two different areas of business. First, as merchandise manager for a large Midwest manufacturer. Next, as developer and owner of a camping-equipment company. But after five years of having my own company, I sold out at a substantial profit. Six months later I had decided to sell life insurance for New England Life.

"I had plenty of confidence by this time in my business ability. Now I wanted to find an area where it would pay off on its own and require little reliance on others. I wanted a field that offered increasing income as I grew older without suddenly dropping off when I reached 65 . . . that held fewer

of the frustrations encountered in industry . . . that could put to best use my training at the School, experience and capabilities.

"Life insurance seemed to come closest to this ideal. So I picked out the company with one of the finest reputations and cost pictures in the industry and sought out one of the most outstanding training agencies in the business.

"It adds up to this: I'm in this business because I like it. Because I chose it after trying other types of work. Because it offers all kinds of opportunities for developing special insurance programs for companies and individuals. It's the unusual combination of freedom and variety that appeals to me. Perhaps it will appeal to you."

If you'd like a reprint of the 5-page article by Norman Wallack, "I Sell Insurance — And Like It!" just send along the coupon. We'll also mail you our free booklet, "Careers in Life Insurance," which describes the opportunities with New England Life for those men who meet our requirements.

NEW ENGLAND LIFE

NEW ENGLAND MUTUAL LIFE INSURANCE COMPANY: FOUNDER OF MUTUAL LIFE INSURANCE IN AMERICA IN 1835. ALL FORMS OF INDIVIDUAL AND GROUP LIFE INSURANCE, ANNUITIES AND PENSIONS, GROUP HEALTH COVERAGES.

Vice President John Barker, Jr.
501 Boylston Street
Boston 17, Mass.

Please send me a reprint of Norman Wallack's "I Sell Insurance — And Like It!" and your free booklet, "Careers in Life Insurance."

Name.....

Street.....

City.....Zone.....State.....

Arthur C. Kenison, '19, Boston

Blaylock Atherton, '24, Nashua

John H. Schaefer, '25, Hackensack

Maurice W. Hanks, '38, Hackensack

Herbert L. Neitlich, '49, Boston



COLLEGE DIVISION

GROUND SUPPORT SYSTEMS FOR MISSILES AND SPACE VEHICLES

By KENNETH BROWN and PETER B. WEISER, University of California, Los Angeles. *University of California Engineering Extension Series*. 490 pages, \$15.00.

Presenting a complete description of the systems required to support either a missile or a space vehicle. Directed toward the engineer having no prior acquaintance with ground support systems, the text approaches the system as a whole unit—assuming that the missile is merely one small portion and that each of the subsystems involved is merely an integral part of the overall system. All subsystems are considered with full discussions of recent advances.

FUNDAMENTALS OF HEAT TRANSFER

By GROBER, ERK, and GRIGULL; translated from the German by J. R. MOSZYNSKI, Case Institute of Technology. *McGraw-Hill Series in Mechanical Engineering*. 527 pages, \$15.00.

This translation is from the German classic GRUNDSETZE DER WARMENBERTRAGUNG first published in 1933 and revised in 1955. Apart from its value as a classic in literature, the Third Edition as rewritten by Grigull covers all the fundamentals of the subject and gives a very thorough account of European research in heat transfer up until 1955. Bibliography includes important publications since 1955.

SYNTHESIS OF OPTIMUM CONTROL SYSTEMS

By SHELDON S. L. CHANG, New York University. 331 pages, \$11.75.

A second-year-graduate-level text bridging the gap between a standard text on the subject and the current literature on optimum control. It may also be used as a supplementary text for a one year graduate course, and as a reference book for industry. The book is designed to equip students with advanced design techniques for high performance systems where the ultimate in response is required.

ELEMENTS OF THERMODYNAMICS AND HEAT TRANSFER, Second Edition

By EDWARD F. OBERT, University of Wisconsin; and ROBERT L. YOUNG, University of Tennessee. Available in January, 1962.

A major revision of a very successful text used primarily in the service course given in the M.E. department to students in other engineering disciplines. The Heat Transfer material has been substantially expanded, an effort has been made to strengthen the mathematical developments of the First and Second Laws, and the theory is built upon the concept of function.

DESIGN MANUAL FOR TRANSISTOR CIRCUITS

By JOHN M. CARROLL, *Electronics*, McGraw-Hill Pub., Co. 376 pages, \$9.50.

A selected group of articles from *Electronics* magazine showing an engineer how to design circuits using transistors and other semiconductor devices.

FOUNDATIONS OF STRUCTURES, Second Edition

By CLARENCE W. DUNHAM, Yale University. *The McGraw-Hill Civil Engineering Series*. Available in January, 1962.

An extension and improvement of a successful text dealing with the practical application and theory of foundation engineering and design. As before, it is intended for reference by structural and foundation engineers, and for text use in senior courses in Foundation Engineering or specialized courses in Soil Engineering.

McGraw-Hill Book Company, Inc.
330 West 42nd Street
New York 36, New York

COMPUTER-CONTROL SYSTEMS TECHNOLOGY

Edited by C. T. LEONDES, University of California, Los Angeles. *The University of California Extension Series*. 649 pages, \$16.00.

This book, developed from a series of lectures offered at various centers in California, combines a unified, integrated treatment of computer-control systems technology with the presentation of a number of currently significant applications. The first sections of the book deal with the theory of digital and analog computers. Then control theory is studied. Finally these two fields are blended by considering the development of some systems of varying degrees of difficulty.

RECENT ADVANCES IN HEAT AND MASS TRANSFER

Edited by J. P. HARTNETT, University of Minnesota. 404 pages, \$9.75.

This book brings together a collection of the most important papers in Heat and Mass Transfer. All the articles have appeared in various journals, magazines or symposia, and have gained wide recognition as outstanding contributions. Of considerable value to all those actively involved in the use of heat transfer information. Suitable as an auxiliary text for graduate courses in transfer processes.

PEACETIME USES OF OUTER SPACE

Edited by SIMON RAMO, Thompson Ramo-Woolridge, Inc. 279 pages, \$6.95.

This remarkable volume brings together outstanding scientists, educators, politicians, and businessmen for an examination of the coming space age. Emphasizing the peacetime, non-military aspects of space technology, the book seeks to heighten public responsiveness to the full impact of science and technology in shaping our future. Contributors include: Leston Faneuf, J. H. Doolittle, Lloyd V. Berkner, Congressman Overton Brooks, Ralph J. Cordiner, Willard F. Libby, Vice Admiral John T. Hayward, Joseph Kaplan, Morris Neiburger, Brigadier General Don D. Flickinger, Leo Goldberg, Edward Teller, and Frederick R. Kappel.

PLANNING A COMPUTER SYSTEM: Project Stretch

Edited by W. BUCHHOLZ, IBM Corporation. Available in January, 1962.

This book is primarily concerned with the selection of an instruction set and related functional characteristics of a high-speed digital computer. The specific subject of the work is the powerful and highly sophisticated computer: the IBM 7030. The authors of individual chapters have actively participated in the design project developing this computer and the text thus reflects the substance of direct personal experience. Reasons are given for various design choices and compromises between conflicting requirements are analyzed. Numerous original ideas discussed.

LINEAR VACUUM TUBE AND TRANSISTOR CIRCUITS: A Unified Approach to Linear Active Circuits

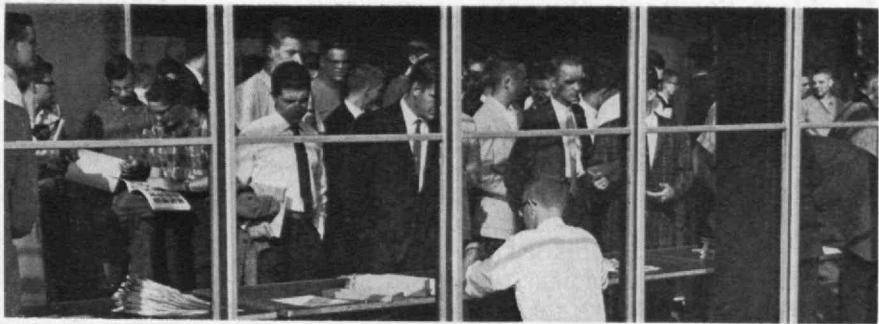
By A. J. COTE, Jr. and J. BARRY OAKES, The Johns Hopkins University. *The McGraw-Hill Electrical and Electronic Engineering Series*. 411 pages, \$10.75.

This senior-graduate level text presents a basic approach to the analysis and synthesis of linear vacuum tube and transistor circuits, and emphasizes the difference and similarities between these two devices. This viewpoint permits the designer to select the optimum combination of external passive elements that will make the best use of the device employed in a particular application.



SEND FOR
COPIES ON
APPROVAL

Trend Of Affairs



The Class of 1965

M.I.T. WELCOMED 910 freshmen this fall from 700 secondary schools in 47 states and 25 foreign countries. Eighty-five per cent were in the top tenth of their secondary school classes, and 200 received college credit for advanced achievements. Twenty-five of the new students were women, 36 were children or grandchildren of Alumni, and two were sons of members of the Faculty. (*Some of the freshmen are shown above.*)

Total enrollment at the Institute this year is 6,485, which is 3.1 per cent more than last year. Of the total, 3,595 are undergraduates and 2,890 are graduate students.

The freshmen were addressed at the outset by Professors Edwin H. Land, Hans Mueller, John Wulff,

Ascher H. Shapiro, '38, and Harold E. Edgerton, '27, and Deans Kenneth R. Wadleigh, '43, and Howard W. Johnson.

Forty-one special seminars were organized this fall, for the first time, to enable freshmen to work directly with senior members of the Faculty.

Pedagogy Automatized

STUDENTS returning to M.I.T. this fall found a new challenge on the bulletin boards: *TIRED OF HUMAN TEACHERS? THINK A COMPUTER CAN TEACH BETTER? Find out for yourself by taking a one-hour experimental course on the IBM 709. No prerequisites. Freshmen through graduates welcome.*

As part of his work for a doctorate, Richard D. Smallwood, '57, had programmed the big machine in the M.I.T. Computation Center to teach a miniature geometry based on two definitions and four axioms. Fifty-five men signed up for the course pronto, and Smallwood admitted 20 to the high-speed course.

Each student was seated at a microfilm projector with notepaper and an electric typewriter. The machine gave him instructions and put questions to him on the screen of the projector; he answered its queries by punching appropriate keys on the typewriter.

A book of instructions and questions, on 24 different levels, was stored in the computer's memory. The machine determined what material was presented to each student, in the light of its previous experience and its appraisal of each individual's needs. It proceeded, in other words, as though it were playing a game: it considered the possible alternatives at each stage of the course and chose the one that seemed most effective.

The great memory and speed of the 709, Mr. Smallwood thought, should make it superior to simpler teaching machines, and he was seeking an answer to two questions: (1) Would the computer vary its presentation of the material when individuals responded differently to its questions? (2) Could it learn from its experience with different individuals and thus become a better tutor as it gained experience? The experiment with 20 students in the course in miniature geometry indicated that the answer to both questions is "yes."

The machine whizzed one man through the course in 33 minutes, and spent 78 minutes making certain that another fellow mastered it. The average time per student was 53 minutes.



Ray Kaempfer, a new student from The Hague, being tutored in miniature geometry in the Computation Center.

President Stratton's Report

IN HIS report to the Corporation this fall, President Julius A. Stratton, '23, described how trends of the day, including increased expenditures for research, are being turned to the advantage of education at M.I.T. The report (copies of which will be sent to many Alumni) dealt also with the state of the social sciences at the Institute, recalled the "magnificent success" of the Centennial celebration, and praised the hard and effective work that Alumni are doing for the Second Century Fund.

The Institute, Dr. Stratton pointed out, has two categories of research programs: Those completely interwoven with its educational objectives, and some undertaken primarily to fulfill its obligations to the nation. The latter as well as the former, however, are contributing to advances in basic science, fundamental engineering, and education; and the relations between so-called "defense" laboratories and M.I.T.'s academic departments and interdisciplinary centers are both cordial and beneficial.

Expenditures for departmental and interdepartmental research have risen more than educational expenditures in the last five years, but teachers and students have constituted an increasing percentage of the personnel engaged in such research. Graduate student enrollment has risen, partly on this account, and undergraduates as well as graduates are now using the large computer and other facilities of M.I.T. research laboratories.

In addition to the Institute's unremitting effort to increase participation of students in significant research programs, it is now engaged in a major program to stimulate improvements in undergraduate teaching. Some departments are experimenting with a tutorial approach this year, and numerous new aids, including take-home laboratory kits for electrical engineering students, are being introduced. Some such innovations have been described in previous issues of *The Review*, and more will be covered in future issues.

In many quarters, Dr. Stratton noted in his report, concern has been expressed lest the current support of science result in starvation of the arts and humanities. But it is questionable, he observed, whether "the cause of the arts would be advanced by imposing limits on the progress of science," or to argue "that money now expended for physics, biology and mathematics would otherwise fall like manna upon college departments of history, philosophy and literature." Instead, he continued, "the example of the sciences ought to set new measures and standards of public and private support in every field of learning."

Technology Square Progresses

GROUND was broken this fall for the first building in the Cambridge area that is being developed as Technology Square by M.I.T. and the Cabot, Cabot & Forbes Company. Two floors of this building will be occupied by an industrial and electronic data-processing firm called C-E-I-R, Inc., which has its headquarters in Washington. It expects to install equipment worth \$15.7 million dollars, including a STRETCH computer, and operate the world's largest and most powerful commercial electronic computing center for both industrial and academic users.

Arthur and Ruth Sloan's Gift

A NEW PROFESSORSHIP in political science, with emphasis on African studies, has been endowed by a gift of \$500,000 from Dr. and Mrs. Arthur W. Sloan of Washington, D.C. It is the first fully endowed professorship in the M.I.T. School of Humanities and Social Science, and its holder will work closely with the Center for International Studies.

Mrs. Sloan, who has a doctorate in history from Western Reserve University, is president and director of Ruth Sloan Associates, a foundation specializing in African affairs. She has served for several years as a member of the Department of State and as director of the African program of the United States Information Agency.

Dr. A. W. Sloan, a chemist educated at the University of Illinois and Harvard, is chairman of the Board and executive vice-president of the Atlantic Research Corporation, of Alexandria, Va. During World War II he served as requirements officer for the Foreign Economic Administration in Egypt and later was science adviser to the Joint Chiefs of Staff of the Department of Defense.

The Arthur and Ruth Sloan Professorship is one of eight sought under the Second Century Fund.

The Electric Train's New Rival

THIS CHRISTMAS you can assure yourself some fun by getting an electronic digital computer for your son. The Minivac 601 being marketed by a group of M.I.T. Alumni costs less than \$100, and will really razzle-dazzle the neighbors.

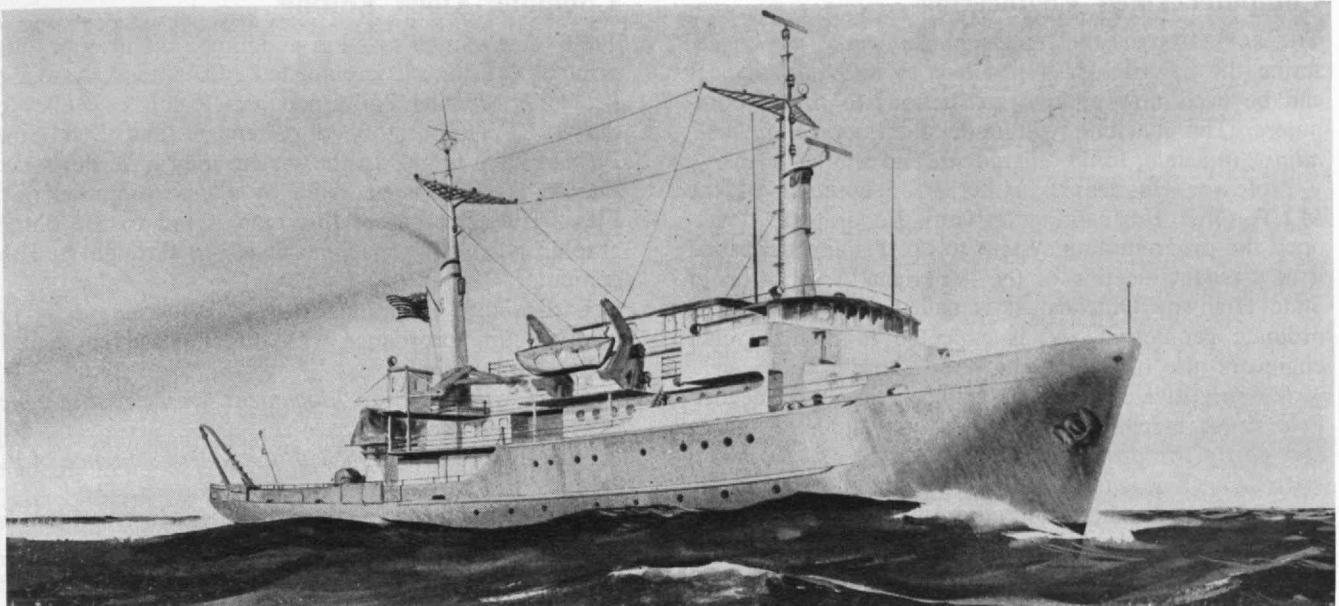
With it and a little patience, you can do the same things that are done with big computers—and in the same way. It may take you an hour to wire the machine to add six and seven, but seeing a binary 13 flash at you in red lights is no small thrill.

The Minivac is a two-foot long box containing a transformer (to reduce 110 volts to 12) and an electric motor (to turn a dial in some experiments). On its surface it has an array of lights, relays, slide switches, push buttons, and 376 holes into which you plug colored wires. Booklets that come with the machine tell you how to hook up flip-flops, convert decimal to binary numbers, use Boolean algebra, play the match game with the machine, and so on and on.

Based on a suggestion of Claude E. Shannon, '40, Donner Professor of Science at M.I.T., it is being marketed by the Scientific Development Corporation in Watertown, Mass. Arnold E. Amstutz, '58, heads the company and his associates include Willard W. Dicker-son, Jr., '58, and Raymond E. Jackson, '58. They hope to go on, now that Minivac has been launched, and produce other educational aids.

Professor Phillips Is 80

FORMER colleagues and students of Professor Henry Bayard Phillips, a member of the M.I.T. Department of Mathematics for 40 years, met on September 27 at the American Academy of Arts and Sciences to honor him on his 80th birthday. Professor W. T. Martin was the toastmaster and the speakers included President Julius A. Stratton, '23. Professor Phillips responded with a succinct summary of his career at the Institute and a statement of his philosophy of life, which ended with an optimistic prediction of progress in the future.



A NEW RESEARCH SHIP, to be called *Atlantis II*, is being built for the Woods Hole Oceanographic Institution. It will be a 210-foot vessel, paid for by the National Science Foundation, and one of the few ships specifically designed

Flotation of Micro-organisms

AN IMPORTANT TECHNIQUE of the mineral and chemical engineer, flotation, may also prove helpful in the future to the biologist and food-processing engineer.

Antoine M. Gaudin, Richards Professor of Mineral Engineering at M.I.T., pointed this out in Denver on September 18 when the Society of Mining Engineers celebrated the 50th anniversary of froth flotation in the United States. Professor Gaudin reported the findings in work done under contract with the U.S. Army Chemical Corps at M.I.T., which indicated that micro-organisms could be separated by differential flotation.

In experiments with cultures of *Escherichia coli*—a readily available, hydrophilic, nontoxic organism, which would not float—it was found that by adding salt to the concentration the number of organisms in the tailing from flotation could be reduced to the vanishing point. And in experiments with another micro-organism, the researchers found that its spores could be separated from the vegetative cells of the same organism by flotation. They succeeded, too, in floating a contaminant from a mixture of organisms of this type.

Hence, Professor Gaudin suggested, flotation may be helpful in such projects as the treatment of soils to isolate various strains of antibiotic-producing organisms.

Ore pulps are commonly described in terms of the percentage of the pulp that is fine enough to pass through a 200-mesh sieve. The micro-organisms with which Professor Gaudin has been dealing could pass through a 20,000-mesh sieve, and are so light that their settling velocity in a liquid is vanishingly slow. They are, moreover, living, reproducing and dying things, rather than inanimate particles, which makes the striking of a balance of materials very difficult. Nevertheless, the experiments showed, they can be floated from one another, or concentrated in a portion of the aqueous phase, and the operation can be both simple and rapid.

and built in this country for oceanography. It will have a bulbous bow containing six glass windows for underwater observations, and four laboratories, including one below decks at the center of least motion for gravity measurements.

Guidance for Apollo

THE National Aeronautics and Space Administration has given M.I.T.'s Instrumentation Laboratory responsibility for developing the equipment that will guide and navigate this country's first manned spaceship to a landing on the moon and during a return voyage to the earth. The laboratory, a teaching-and-research facility under the Institute's Department of Aeronautics and Astronautics, will design and build the first several systems for which NASA will choose a contractor. First-year development costs at M.I.T. are estimated at \$4,000,000.

This country's effort to carry out manned exploration of the moon is being conducted under NASA's Project Apollo and selection of the Instrumentation Laboratory to develop the guidance-navigation system made M.I.T. the first member of the Apollo contractor team. The Instrumentation Laboratory has been doing theoretical guidance-navigation studies on a moon flight for NASA since February, 1961.

Charles S. Draper, '26, the laboratory's head, often is called the father of inertial guidance. Roger B. Woodbury, '48, and Forrest E. Houston, '48, associate directors, have supervisory responsibility for several of the laboratory's research programs, including the Apollo guidance work. Development of the Apollo guidance-navigation system is expected to take several years and will be supervised by Milton B. Trageser, '51, Ralph R. Ragan, '52, and John W. Hursh.

Lincoln Decennial Lectures

TO OBSERVE its 10th anniversary, Lincoln Laboratory has arranged a series of lectures on "The Age of Electronics" in M.I.T.'s Kresge Auditorium. The speakers will include Professor H. B. G. Casimir, November 15, discussing important pioneers in electronics; Ivan A. Getting, '33, November 28, on radar; and L. V. Berkner, December 11, on communications.

Computer-Aided Engineering

THE SAME WORDS that one engineer would use to describe the solution of a problem to another engineer can be used now to give instructions to digital computers. The machine will understand *locate, inverse, adjust, intersect, ramp, alignment*, and similar terms.

Professor Charles L. Miller, '51, Director of the M.I.T. Civil Engineering Systems Laboratory, developed the programming system to do this and described it at a recent meeting of the American Association of State Highway Officials. It is called COGO (for coordinate geometry) and is expected to increase civil engineers' use of computers.

The primitive or pseudo languages previously needed to instruct machines made their use time-consuming and costly for problems that are rarely exactly alike. With COGO, it is technically and economically feasible to write a separate and unique program for each set of data, use a program once, and discard it.

COGO already is in daily use at the Institute, and has made it feasible to give students full-scale engineering problems as homework assignments. It also is being employed in the Puerto Rico Department of Public Works, and a specially designed COGO system will be used with the new engineering computer that the Massachusetts Department of Public Works is installing. Professor Miller considers it one step in the development of a much larger system. The Civil Engineering Systems Laboratory is interested in attaching a drafting machine to a computer, and COGO can be expanded to include the words an engineer would use to communicate with a draftsman. Thus engineers ultimately may be freed from such routine chores and enabled to devote more of their time to the creative work for which they are professionally trained.



CHIEF DEVELOPER of an English-like computer language called AUTOPROMT was Samuel M. Matsa, '56 (right, above) of IBM, who is pictured with P. H. Sterbenz. AUTOPROMT was designed to broaden the use of numerically controlled machine tools by leaving to a computer the task of generating tool paths on the basis of a simple description of the part to be milled and the tool to be used. John G. Lee, '21, of United Aircraft Corporation, also participated in its first public demonstration last summer.

Computer-Aided Editing

TIME often can be saved in updating a manuscript to be printed by using a computer to "edit" a tape, Associate Professor Michael P. Barnett and Kalon L. Kelley of the M.I.T. Laboratory of Chemical and Solid-State Physics have found. In the system they have devised, a Photon machine is operated by a tape prepared on a Flexowriter. But before this tape is fed to the photographic typesetting machine, it is run through an IBM computer.

Last-minute alterations in the tape are made by the computer in accordance with directions given to it in such simple English as:

Insert "other" before "document" in the first sentence of the second paragraph.

Start a new paragraph with the fourth sentence of the second paragraph.

The computer can decode these instructions by means of programs called Shadow subroutines, which have been used extensively in work on other problems. The tape that goes to the Photon machine thus can be altered very swiftly, and a Photon machine driven by a tape can turn out work faster than when operated from a keyboard. The developers of the system believe that much retyping can be eliminated and time saved in preparing new editions of manuals, catalogues, and other works that must be revised frequently.

Professor Barnett, whose work has been mainly in theoretical chemistry, operations research, and computer languages, came to this country from England in 1957 and to M.I.T. in 1958. Mr. Kelley, who came to the Institute from Harvard, designed the computer programs for the system. Although they developed it primarily for their own use, they expect wider application to be found for their system.

Biochemists in Moscow

M.I.T. SCIENTISTS who participated in the International Congress on Biochemistry last summer in Moscow included Vernon M. Ingram, who described his method of studying hemoglobin, and Gene M. Brown, who explained how sulfa drugs combat infections in humans.

Hemoglobin, a concentrated protein solution in blood cells, takes oxygen from the air and gives it to areas of the body where energy must be produced. Fetal hemoglobin has properties which allow it to utilize oxygen from the maternal hemoglobin. This form decreases after birth and production of adult hemoglobin begins. But from time to time mutations occur which may have serious consequences. Dr. Ingram and his colleagues have been able to study the switch from fetal to adult hemoglobin by a process known as fingerprinting of molecules, and thus to make certain that the necessary amino acids are present in the correct sequence and amounts.

The sulfonamides, which Dr. Brown discussed, have been used for 20 years, but the mechanism of their inhibitory actions has not been understood. Dr. Brown reported that they "fool" enzymes involved in the biosynthesis of folic acid. Para-aminobenzoic acid is usually incorporated into the more complex folic acid. But the chemical properties of sulfonamides are so similar to those of para-aminobenzoic acid that the enzymes use them in place of the acid, and this reduces the chances of bacterial growth.

Will Your Son Get into College?

You can help by sharing a child's quest for knowledge, but you are not likely to view him the way the admissions officer will

BY EUGENE S. WILSON

NOT LONG ago, the head of a large testing agency told college-educated parents of college-bound students: "Enough is now known about evaluating individual abilities and achievements so that any parent who really wants to may view his child as the child will be viewed by the college."

Now this advice seems to be sound and simple. After all, you do receive regular reports from schools on your child's achievement in each subject. National agencies which offer standardized tests provide with the individual test results a manual of interpretation, so that you may know not only your child's scores, but how these compare with state or national groups of students.

You and your child can also discover through material in the school guidance office information on the range of test scores in freshman classes at many colleges.

As DIRECTOR OF ADMISSIONS at Amherst, Eugene S. Wilson (right) has become an outstanding authority on preparation for college. He had 10 years' business experience and was Amherst's alumni secretary before assuming his present post, and has since served as president of the Association of College Admissions Counsellors. This article will be published in many alumni publications this year; Editorial Projects for Education, Inc., holds the copyright and reserves all rights to it.



In spite of all this information, *you can't think as an Admission Committee thinks, you can't out-guess an Admission Committee, and if you try you may expose your child and yourself to disappointment.*

This counsel to think as an Admission Committee thinks reminds me of the advice I received once in a deer hunting lodge on the night before the opening of the deer season, when a veteran deer hunter explained to me that "the way to get a

deer is to think like a deer." His elaboration of this philosophy was so convincing that I asked and received permission to hunt with him the next day. What a time we had! He studied the wind, the ground, the trails, and then he explained to me how with such weather conditions the deer would probably do this. He stationed me on one old log and he went in another direction.

To make a long story short, I heard a lot of shooting around me;

The Duty of the M.I.T. Admissions Office . . . As Seen by Its Director

MR. WILSON emphasizes a highly significant point when he says "no one knows which colleges are best." If there were good objective standards for determining which colleges are best, we are sure M.I.T. would be near the top of the list. But there are no useful standards of this sort, and it is doubtless fortunate that there are not. The important question for any college-bound teenager is "what college is best for him?" and the criteria by which this question may be answered are highly subjective.

The college that is "best" for one may be highly unsatisfactory for another. A college with neither name nor fame will provide a better education for some young people than any of the most celebrated colleges in the country.

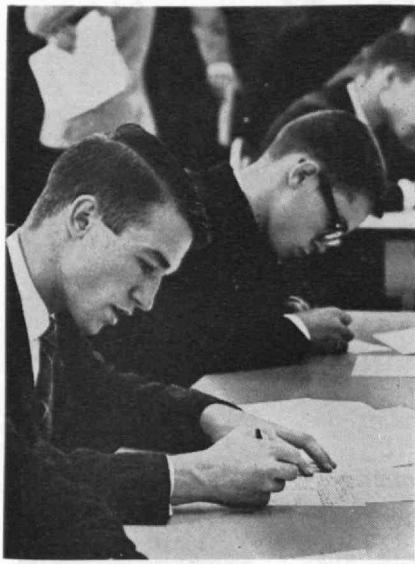
To bring this generalization a little closer to home:

We are sure that M.I.T. is tops for many boys; and we are equally sure that it is not the place for many others. The primary task of the Admissions Office is to select those who are best situated to profit from what M.I.T. has to offer; and to direct elsewhere those, however able, who seem better adapted to some other educational environment. It is not—it should not be—a question of admitting the "best" students and rejecting the rest. It is—and must be—a question of finding those students who can profit most from the M.I.T. educational process.

Accordingly, our admissions policy is to evaluate extracurricular activities, motivation, special interests, evidences of the inquiring mind, and

to select on the basis of what appears to be "mutual compatibility" rather than merely on the basis of academic performance and test scores. We expect to reject some students who will become honors candidates at top-flight colleges; we expect to admit some students who are rejected by colleges generally considered to be less rigorous and less difficult to enter. Our basic objective is to admit those whose combinations of personal characteristics, intellectual potential, and motivation indicate they are most likely to profit from an educational experience at M.I.T.

Roland B. Greeley
Director of Admissions



M.I.T. freshmen register . . .

I saw a few deer killed by other hunters, but the expert and I never saw a deer. Apparently some deer were thinking as humans think.

Four Unknowns

Here are some of the reasons why you can't think as an Admission Committee thinks:

¶ Admission Committees act differently each year according to the quantity and "quality" of applicants and the needs of the institutions involved. The ever-swelling host of candidates has brought rapid changes in admission standards at every institution.

¶ The weight given marks and test scores varies so much among institutions that even veteran school counselors hesitate to make firm predictions on individual cases. I have heard admission officers for Yale, Wellesley, and Harvard state that test scores do not have the importance they once had in selection procedures. The reason is that at the most popular institutions too many candidates look alike when measured by either marks or test scores.

¶ You can't know from year to year how much weight Admission Committees will give to certain other factors: that is, school and geographical distribution, extracurricular achievement in art, music, drama, sports or community service, and occupational choice (some institutions limit the number in a class who want medicine, engineering, math, or science).

¶ You may be able to understand the strengths and weaknesses of your

college-bound child, but you can't know the quantity and quality of the other candidates at the college chosen by your child. At co-educational colleges girls often meet higher competitive admissions standards than boys—and within a university some schools have higher entrance requirements than others.

Whether your child is accepted or rejected at any college depends not only on his credentials, but even more on how his credentials compare with those of the other applicants.

What then can you do when you want to help your child prepare for college—when you want to guide your child to an institution that will stimulate him fully? There is only



. . . establish their identity . . .

one safe workable program regardless of your child's test scores, his marks, or his other achievements. This is a program that introduces your child to the mysteries of the world and to the excitement of discovery. This program should be started as soon as your child begins to talk and read.

Most children are born with a full measure of curiosity. They want to know what is going on about them and, as you know, the early years are filled with "What?" and "Why?" and "Where?"

If you have the time and the patience to answer these questions, you will nourish this curiosity that is the taproot of all learning. Only the curious learn.

Your child won't be many years old before you will encounter the

first question you can't answer. You can shrug your shoulders and say, "Go away and stop bothering me," or "I don't know," or "Let's find out."

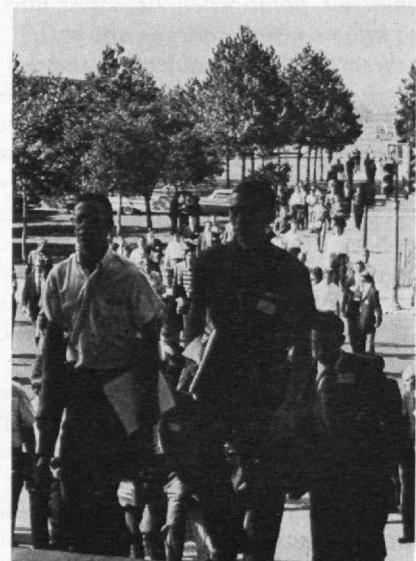
If you have the time and patience to lead your child in his probe of the unknown, in his search for knowledge, you will encourage the maintenance of a habit of inquiry. You may also rediscover for yourself the fun of learning.

But this nourishment of curiosity means that a mother cannot be too occupied with community affairs, social teas, or bridge parties, and that on some mornings she may have to leave the beds unmade or the dishes unwashed until nap time, and Dad may have to miss a golf game. Priorities must be established.

Today there are so many forces working against the development and maintenance of curiosity in a child, forces like the radio, television, the automobile, and hundreds of sporting events. All too often curiosity is throttled by spectatoritis, by parents who are too busy, and even, alas, by the rigidities of the school system and the desire of teachers to cover a certain amount of material so that students will do well on their tests.

If you want to help your child get into a college, you will always be aware of what your child is studying in school and especially what he is reading. *Your reading will supplement his reading and your learning will mesh with his so that you will be in a position to stimulate his further development.*

(Continued on page 58)



. . . and start up the steps.

A Magnetic Record

For the Time Being

126,000-gauss continuous field
is attained in old laboratory

A NEW RECORD—for the M.I.T. National Magnet Laboratory to eclipse—was set last summer with a solenoid magnet invented and patented by Henry H. Kolm, '50. Using the power and water available in the basement of Building 4, it produced a continuous magnetic field of 126,000 gauss.

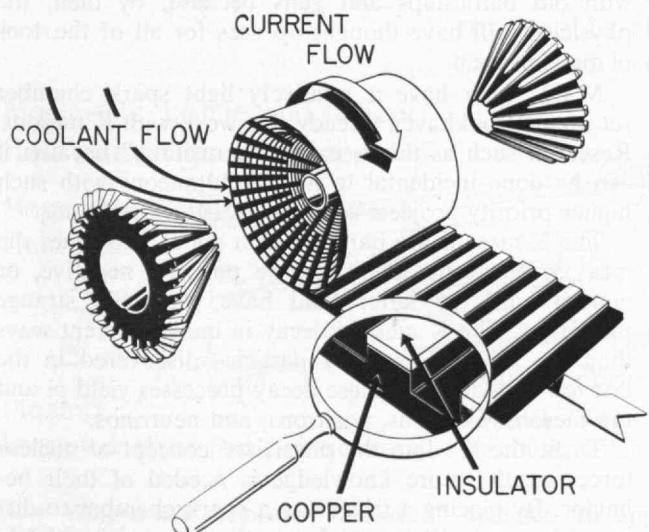
This is about six times the strength of similar fields obtained with big iron magnets, and exceeds by about 25 per cent the strength of the continuous fields that Professor Francis Bitter attained in the 1930's.

Five times as much power will be available in the new laboratory that is now being constructed as has been in Professor Bitter's Building 4 laboratory, and a magnet now being developed is expected to produce a continuous field of 250,000 gauss.

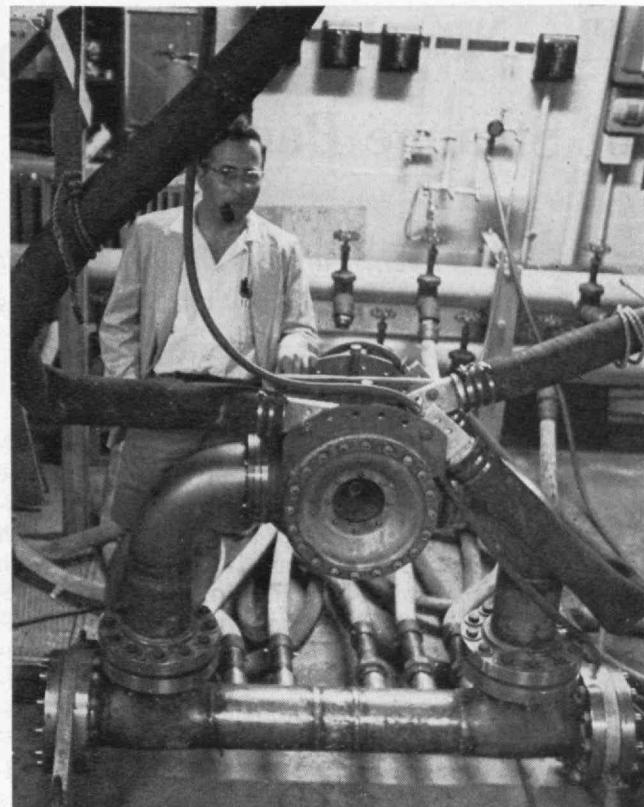
Much higher pulsed fields have been created. Dr. Kolm and Simon Foner of Lincoln Laboratory, for example, produced pulsed fields of 750,000 gauss about five years ago. But such fields last only for microseconds.

Professor Bitter recently described how the first great continuous fields were generated at M.I.T. in a booklet for high school students, *Magnets, The Education of a Physicist* (Doubleday Anchor, 95 cents). "The first and main difficulty," he pointed out, ". . . is that strong enough currents tend to heat the coil, melt it, squeeze it out of shape, and destroy it."

Dr. Kolm has overcome this difficulty in a new way. His solenoid consists mainly of a 135-foot-long copper ribbon, tapered from a width of six inches at one end to a width of only an inch and a half at the other end. This ribbon is wound between insulating material like the sweet part of a jelly roll, but with vastly more care.



Water flows through the slots while current flows through tapered copper ribbon which constitutes the Kolm magnet.



Henry H. Kolm, '50, with the new magnet (shown on the cover) as it appears when it is mounted to be powered.

There are more than 3,000 slots in this ribbon, and they are cut so that when it is wound they are aligned like the spokes of a wheel. These slots provide channels through which water is pumped to cool the coil. You can see light through it when it is removed from its mounting, and when it is operating 320 gallons of water are pumped through these fine channels every minute. During Dr. Kolm's recent experiments with it, this water removed the heat produced by the consumption of 1,880,000 watts of electricity.

The first two coils he tried were half-scale models made by hand, and served mainly to test the design concept under realistic conditions. To produce the coil which set a new record, the High Voltage Engineering Corporation designed special machinery.

The whole solenoid is about the size of a grapefruit and the 126,000-gauss field is produced in an aperture about an inch in diameter and two inches long in the center of the coil. This is about the size of the continuous fields Professor Bitter's apparatus produced before World War II interrupted his efforts to generate still stronger fields. The volume requirements are modest in solid-state and much other research, but both stronger and larger fields will be made available in the future.

Work on the Kolm solenoid began in the Solid State Physics Division of Lincoln Laboratory and has been continued in co-operation with the National Magnet Laboratory with the support of the Air Force Office of Scientific Research.

The powerful continuous fields that Drs. Kolm, Bitter, and others at M.I.T. are now planning are expected to facilitate the study of materials, superconductivity, and fusion power, and be helpful in efforts to improve devices ranging from microscopes to space vehicles.

The New Detectors of Strange Particles

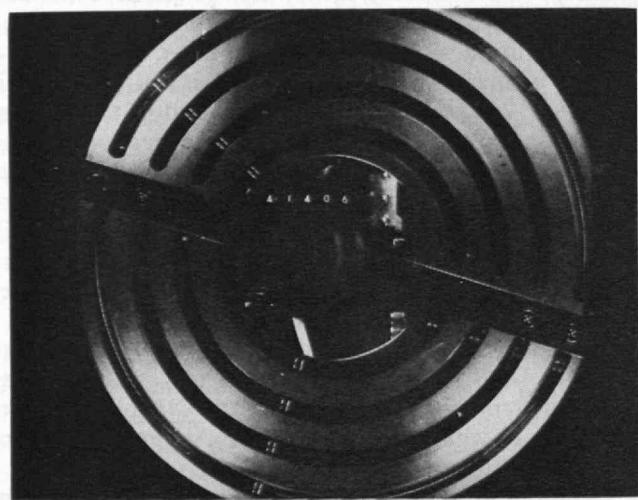
Even neutrinos are being sought with the help of spark chambers

WITH both of the world's two most powerful accelerators of atomic particles, efforts are about to be made to detect neutrinos. A neutrino is so nearly nothing that it can go right through the center of the earth without being stopped; its mass is all associated with its energy and would be zero if the neutrino were halted, but a neutrino can never be brought to rest. Physicists hope, nevertheless, to verify the existence of neutrinos and study them in the beams from the multi-billion volt accelerators at Brookhaven National Laboratory and the CERN laboratory in Switzerland.

A new detecting device called the pulsed spark chamber will be used in these and many other experiments now planned with the big accelerators. The first pulsed spark chamber in the Western Hemisphere was built in the M.I.T. Laboratory for Nuclear Science by Dr. David A. Hill, '54, and Michael A. Wahlig, a graduate student, in 1958. This one still is being used almost daily, and additional chambers have since been built in Professor David Frisch's laboratory and elsewhere.

The core of a pulsed spark chamber is a set of metal plates with gaps between them. These plates are electrically charged when a trigger is touched, and sparks fly between the plates when a subnuclear particle has gone through the chamber in which they are housed.

The trigger of the first chamber produced at M.I.T. is a plastic disk that is sensitive to debris from cosmic radiation. There is a scintillation in this plastic whenever a meson or some other invisible, charged, ener-



The sparks in this cylindrical chamber (and their reflections in a mirror) follow the path taken by a K meson going downward and leftward after striking a proton in the center and sending it upward to the left.

getic particle comes along. This scintillation notifies the instrument that something is plunging through its plates.

A strong electric field is then created in the gaps between those plates, and sparks cross the gaps. Those sparks reveal the points at which that "something" has ionized the gas between the plates. The sparks can be photographed, and thus the path taken by the invisible something can be determined.

Such a chamber can be set up so that it will be triggered only by certain things, and this is what makes a pulsed spark chamber so useful to a physicist. With it he can locate particular kinds of elementary particles in beams that contain many different kinds.

When bubble or cloud chambers are used to detect subnuclear particles, hundreds of pictures—cluttered with traces of a great assortment of things—often must be examined to find the pathway of some particular, short-lived particle. Bubble and cloud chambers will continue to be used in many experiments, but in others the new spark chambers will save the physicists a great deal of time and work.

The new chambers vary both in size and design. The plates of M.I.T.'s first one are flat and about the size of 45-rpm phonograph records. These are stacked in a gas-filled, glass box about a foot high. A mirror alongside the chamber enables an observer peering into this box to see both the sparks and reflections of them. The mirror also makes it possible to take photos from which the particles' paths can be charted in three dimensions.

Spark chambers with cylindrical rather than flat plates also have been built. These resemble nests of metal cans, with a little one in the center and progressively larger cans around it. When you look into the end of a cylindrical spark chamber, the edges of the plates may remind you of the rings in a tree trunk. By placing a camera at one end of such a chamber and a mirror at the other end, stereoscopic records of the sparks between the cans can be obtained.

The spark chamber that a Columbia University group will use in the effort to detect neutrinos at Brookhaven will weigh 10 tons. Its size and that of associated apparatus and shielding has prompted one of the accelerator's operators to predict that, if the world ever disarms, no one will have to worry about what to do with old battleships and guns because, by then, the physicists will have thought up uses for all of the tons of metal in them.

M.I.T. men have a relatively light spark chamber set up at Brookhaven already, for work with K mesons. Research such as this is called "parasiting," because it can be done incidental to and simultaneous with such higher priority projects as trying to detect neutrinos.

The K mesons are particles with about 970 times the mass of electrons. They can be positive, negative, or neutral, and the latter kind have especially strange properties. The K mesons decay in more different ways than the other elementary particles discovered in the last few decades, and these decay processes yield pi and mu mesons, electrons, positrons, and neutrinos.

To fit the K's into the physicists' concept of nuclear forces neatly, more knowledge is needed of their behavior. By placing a trigger on a spark chamber to distinguish certain K mesons from other things, the M.I.T. researchers at Brookhaven hope to obtain photographs from which they can draw enlightening information.

The Wingerson Corkscrew Effect

It suggests a way to remove an obstacle to thermonuclear power, and a new kind of experimental magnetic bottle is being built

A NEW KIND of magnetic bottle incorporating a corkscrew-shaped field is being built this fall at M.I.T. to test a newly suggested way of removing a major obstacle to harnessing thermonuclear energy. Proposed by a graduate student, Air Force Captain Richard C. Wingerson, '52, it is being built by another graduate student, James S. Tulenko, under the supervision of David J. Rose, '50, Professor of Nuclear Engineering. Professor Rose believes that Captain Wingerson has found a solution to a problem with which

many men have struggled in vain.

Thermonuclear reactions occur between the nuclei of isotopes of hydrogen at extremely high temperatures. In the sun and stars, gravity confines this material, which physicists call plasma; on earth confinement can be achieved only by magnetic fields. Magnetic containers of various shapes are being studied, but the better the container is, the harder it is to put the plasma inside.

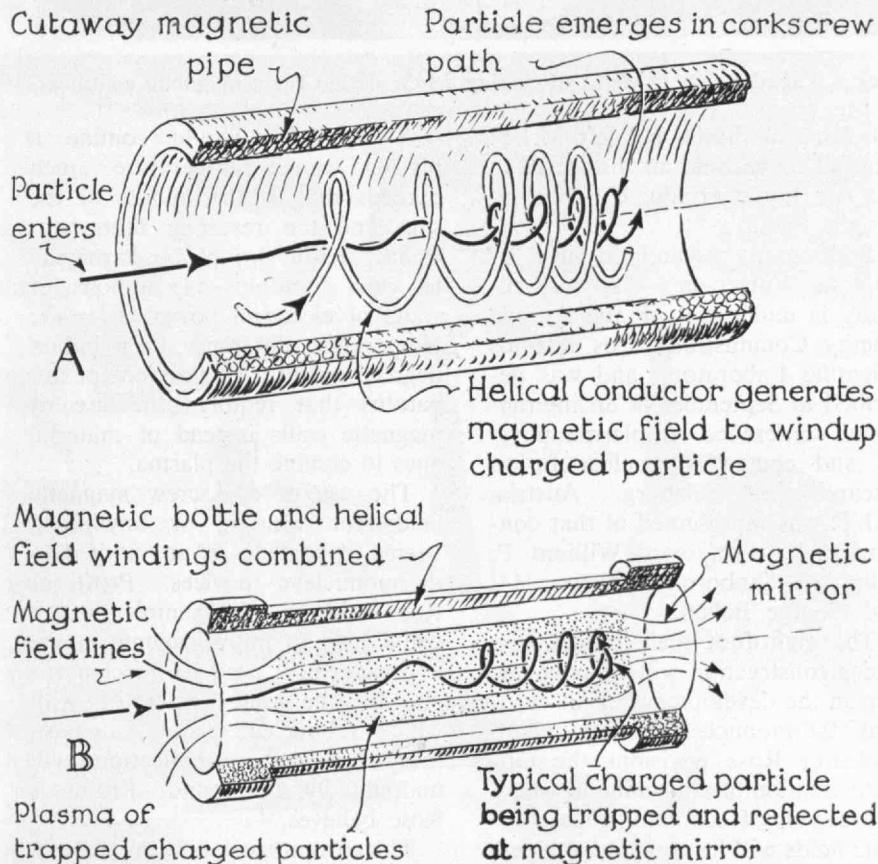
One important class of bottle consists of a long pipe, the walls of

which are a magnetic field created by an electrical coil around it. The ends of this pipe are open but "mirror" magnetic fields are set up there to serve as stoppers. Captain Wingerson has found a way of filling the bottle with plasma, by using corkscrew magnetic fields. This structure, his work indicates, would be much more effective than configurations proposed hitherto—for example, an undulating field investigated two years ago by the Soviet physicist, K. D. Sinel'nikov.

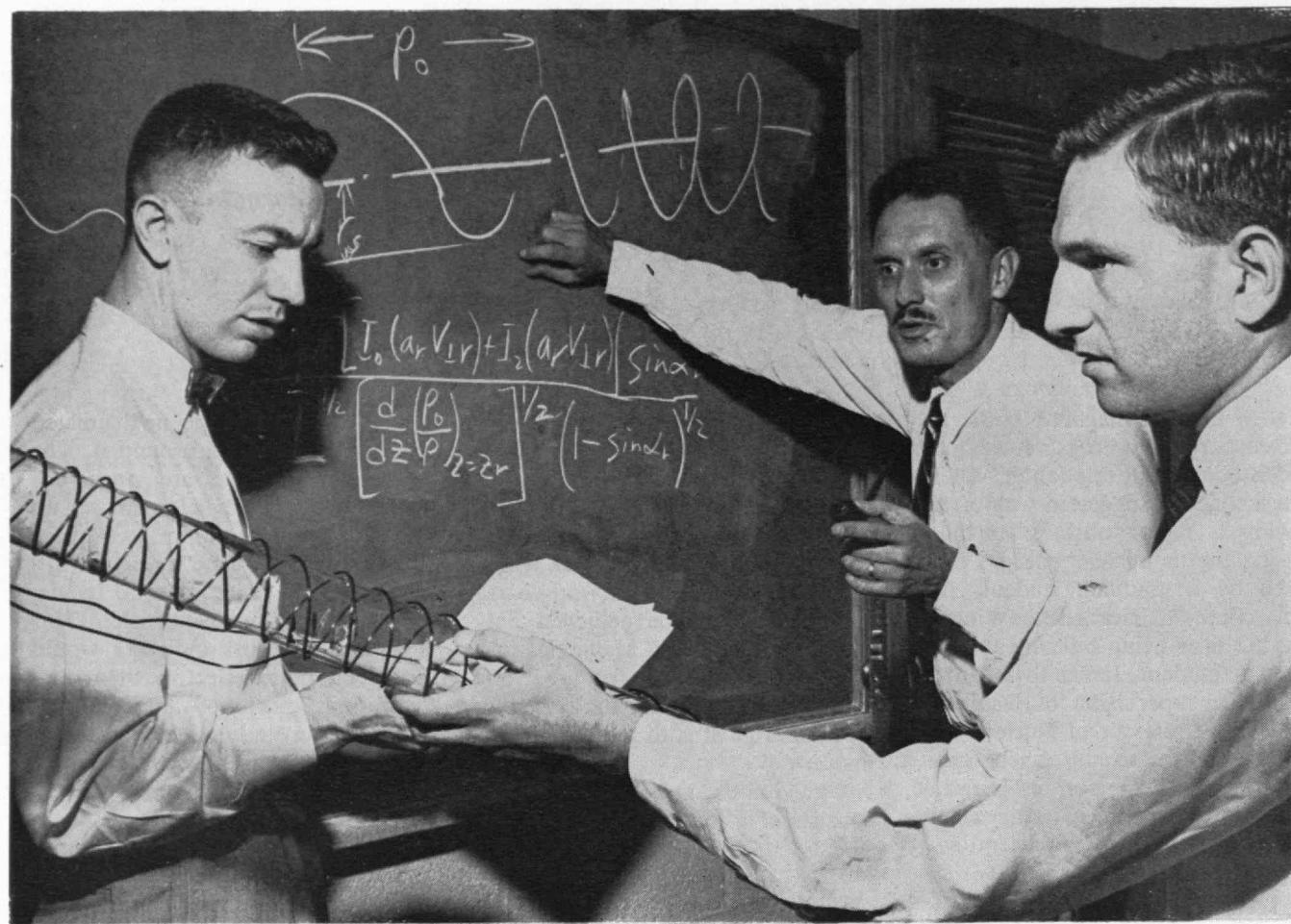
By making this field spiral like a drill, Captain Wingerson's computations show that a beam of particles shot into the tube along its axis with a certain energy can be wound up or unwound. In other words, some of the particles' longitudinal energy can be transformed into perpendicular energy. The mirrors are then more effective, and enough particles can be retained in the tube for sufficient time for energy to be released by their fusion.

In effect, his device would be similar to a lobster trap. It would be easy for a particle to get into the thing but difficult for it to escape because of the trap's geometrical configuration. The walls of this trap are the complex magnetic fields created by the axial coil and the mirrors—and the entrance to the trap is determined by the corkscrew fields.

Theoretical studies made by Captain Wingerson have reached a point where definite predictions of the behavior of charged particles in the corkscrew structure have been made, and designs for a major experiment are under way. The ionic charged particles that must be confined for a thermonuclear reaction to occur are relatively heavy, and would necessitate a structure between 50 and 100 feet long. The experimental scale model being



How Wingerson's magnetic "corkscrew" operates: In upper picture (A), the helical wire generates a magnetic field in the magnetic pipe to wind up an entering particle. Below (B), the corkscrew has been combined with a magnetic bottle to trap high-energy particles and form a plasma.



Captain Wingerson, Professor Rose, and James S. Tulenko (left to right) discussing a new design for a magnetic container.

built by Mr. Tulenko will operate with electrons, which are much lighter than the ions. As a result, this scale model will have to be only eight feet long.

Large-scale experimental machines of many types have already been built in this country, England, and Russia, in the hope of achieving thermonuclear reactions. The plasmaologists at M.I.T., however, have maintained that the first step should be to acquire more fundamental knowledge of the nature of plasmas, their instabilities, and their behavior in magnetic fields. This basic research has led to the discovery at M.I.T. of the Wingerson corkscrew effect and many other important plasma phenomena. Such studies will be extended with Mr. Tulenko's scale model while other graduate students are dealing with other aspects of thermonuclear problems.

Captain Wingerson returned to the Institute two years ago to resume his studies, and met the requirements for a doctorate much sooner than is customary. The idea that will now be tested is set forth in

his doctoral thesis. He left M.I.T. this fall to become an instructor in the Air Force Graduate School at Wright Field.

Preliminary research inspired by Captain Wingerson's discovery already is under way in the Atomic Energy Commission's Los Alamos Scientific Laboratory, and was described in September at an international conference on plasma physics and controlled nuclear fusion research in Salzburg, Austria. M.I.T. was represented at that conference by Professors William P. Allis, '23, Sanborn C. Brown, '44, and George Bekefi.

The eight-foot scale model now under construction will be only one step in the development of an eventual thermonuclear power plant. Professor Rose envisions the ultimate creation of a machine in which for reasons of economy huge magnetic fields will be created by superconducting coils operating at temperatures near absolute zero. Captain Wingerson's configuration would be incorporated in the superconducting field structure.

These fields would confine a plasma whose temperature much exceeds that in the middle of the sun, and the resulting thermonuclear reaction would be harnessed to yield hundreds of millions of watts of electrical power. It is the temperature difference of a billion degrees within a single piece of apparatus that requires the use of magnetic walls instead of material ones to confine the plasma.

The use of corkscrew magnetic fields for winding or unwinding beams of particles is not limited to thermonuclear devices. Professor Rose believes, for example, that it could lead to improvements in the apparatus now used to inject particles into the great accelerators with which subnuclear matter is examined. Many other applications will undoubtedly be found, Professor Rose believes.

The current work is being done in M.I.T.'s Research Laboratory of Electronics, supported in part by contracts from the Defense Department and the National Science Foundation.

Missile Makers' Instrument Discloses Blood's Behavior

A DEVICE invented in the M.I.T. Instrumentation Laboratory to measure very small torques has been used part time of late by blood researchers and has revealed that blood plasma is a non-Newtonian fluid.

The viscosity of a Newtonian fluid such as water remains the same no matter how swiftly or slowly it flows. That of a non-Newtonian fluid changes (catsup is a familiar example), and the discovery that blood plasma is non-Newtonian may be helpful in dealing with circulatory disorders and cardiovascular disease.

Philip J. Gilinson, Jr., '36, and Charles R. Dauwalter, '55, originally produced the instrument with which this discovery was made in order to aid in the production of inertial guidance systems for great missiles. Several companies producing Polaris guidance systems for the

Navy use instruments similar to it now to check the performance of gyroscopes and gyro sub units. It is so sensitive to torque that it can measure the rotational force exerted by a small wheel that turns only once a day.

In missile work, the instrument is called a "torque-to-balance loop." In medical research, it is called the "GDM Viscometer" after its two developers and Edward W. Merrill, '47, Associate Professor of Chemical Engineering. Dr. Merrill's search for an instrument to measure viscosity at extremely low flow rates led him to the Instrumentation Laboratory last winter.

He was collaborating at the time with Dr. Roe E. Wells, Jr., of the Harvard Medical School in the study of chemical and physical properties of blood plasma and plasma containing anticoagulants. Professor Richard H. Frazier, '23, of the



Speed adjustments on motor are made to study blood plasma's viscosity.

M.I.T. Department of Electrical Engineering, helped bring about the merger of missile and medical research which resulted in the GDM Viscometer, and the work was done under a grant from the estate of Alfred H. Caspary, '98, to M.I.T.

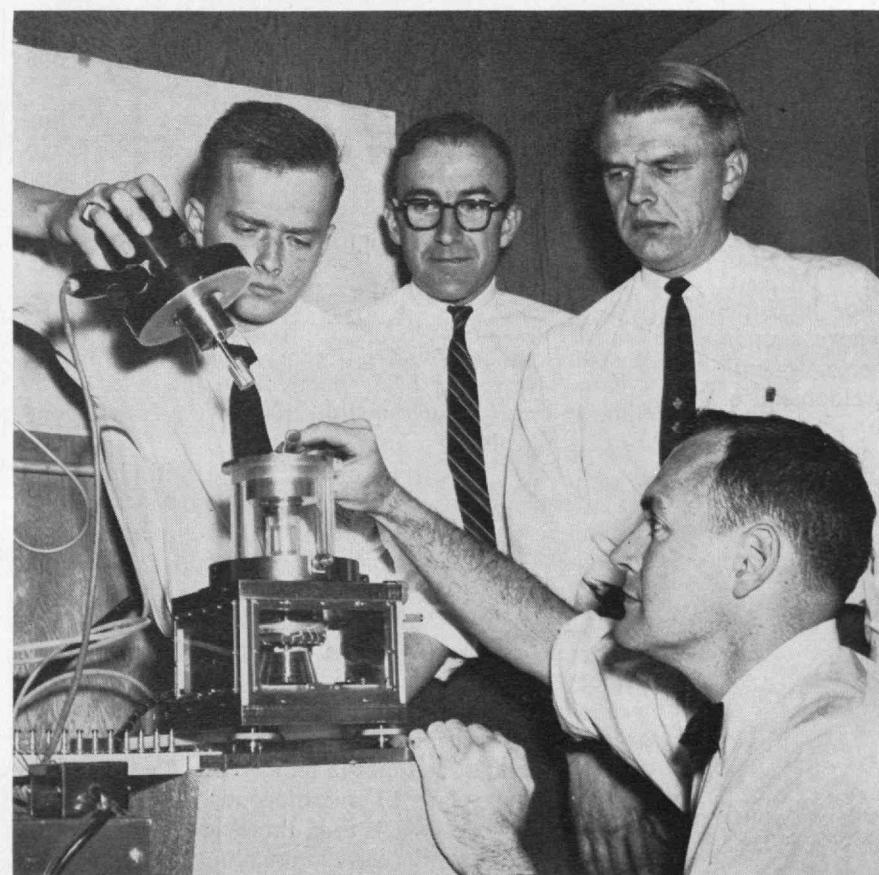
As a viscometer, the device is rigged to a small cup containing the fluid to be tested and a rotor is immersed in the fluid. This rotor exerts shear on the fluid, and a torque on the cup results. The shear rate is known from the motor setting, and the shear stress is found from the torque on the cup, to compute the viscosity of the fluid.

A teaspoon of blood suffices for a test, and it takes less than a minute. Most viscometers require more fluid, and tests take so long that blood sometimes clots. By imparting very tiny shear rates to the fluid and measuring the shear stresses that result with great precision, the GDM Viscometer has made viscosity studies possible at lower ranges of shear rate and shear stress than were previously feasible.

Drs. Merrill and Wells suspected from earlier work that plasma might be non-Newtonian, and succeeded in measuring changes in its viscosity with the Instrumentation Laboratory's extremely sensitive instrument.

Blood plasma's non-Newtonian character, they believe, may account for some of the curious mechanics of its circulation in the capillaries. These tiny blood vessels are about the same diameter as the

(Concluded on page 54)



The GDM Viscometer and its developers (from left to right), Dauwalter, Merrill, and Gilinson of M.I.T., with Dr. Wells of Harvard (in foreground).

This Year's Fastest Computer

Lincoln's FX-1 is 10 times as swift as today's giants and a "working model" for new generation

AGAIN, M.I.T. has the fastest digital computer ever built. In 1951, it was Whirlwind, now it is Lincoln Laboratory's FX-1.

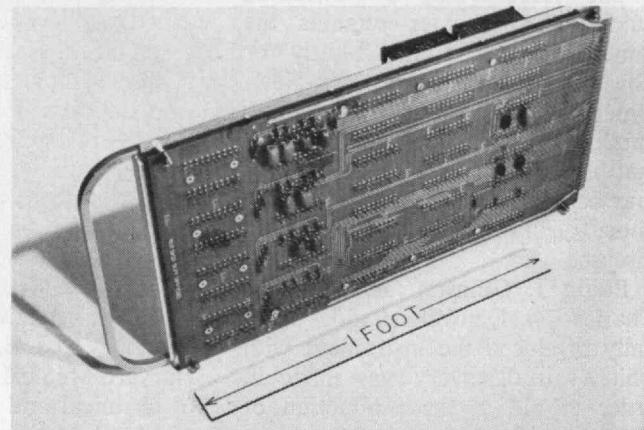
Lincoln Laboratory traces its origins to the Digital Computer Laboratory that grew up around Whirlwind. Its staff has since built a series of larger, faster machines, and regards the FX-1 as "a working model for a new generation of machines" that will be 10 times faster than the computers now in general use.

The FX-1 is a small but complete general-purpose computer. It and its power supplies occupy only three relay racks (pictured on the next page). It operates at room temperatures, is easily ventilated, and requires only one-thirtieth as much power as Whirlwind. But its high speed enables it to match the performance of considerably larger machines.

Whirlwind averaged 30,000 operations per second. The TX-2 built by Lincoln in 1958 averaged 120,000. Innovations embodied in the FX-1 enable it to average 2,000,000 per second.

The FX-1 was built for realistic tests of new construction techniques, improvements in transistors and circuitry, and storage of information in thin films of magnetic material. It is expected, however, not only to serve for such tests but also to do some practical work. Its speed makes such a computer especially suitable for pre-processing high-peak-rate data before it is given to other machines.

This machine was carefully designed for high-frequency operation, and is the first one to have a main memory made of thin magnetic film elements. Lincoln has been among the pioneers in the development of



Plated-circuit tray in FX-1 holds up to 20 plug-in units, has two layers of wiring on either side of ground plane.

such memories to replace ferrite core memories, which were an important earlier M.I.T. contribution to computer technology.

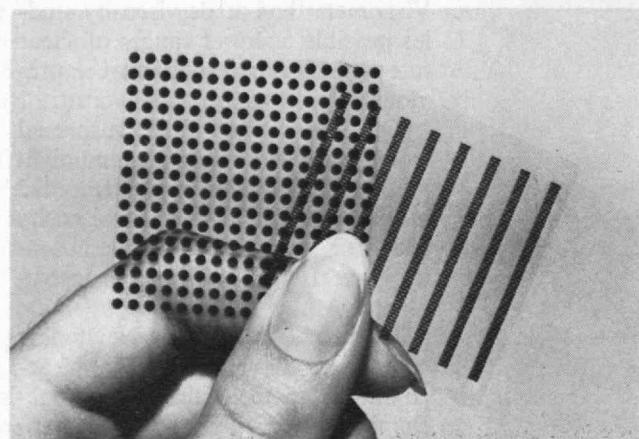
The speed of a computer is limited both by the timing pulses which govern the operation of its logic circuits and the time that is required to remove a word from its memory and write in a new one. In both respects, the FX-1 is faster than today's most advanced commercial computers.

The speed of the logic circuits is called the *clock rate*. Whirlwind's effective clock rate was two million pulses a second; in the TX-2 this rate was increased to five million, and in the FX-1 it has been increased to 50 million. This is four times the rate of the fastest commercial machine disclosed to date.

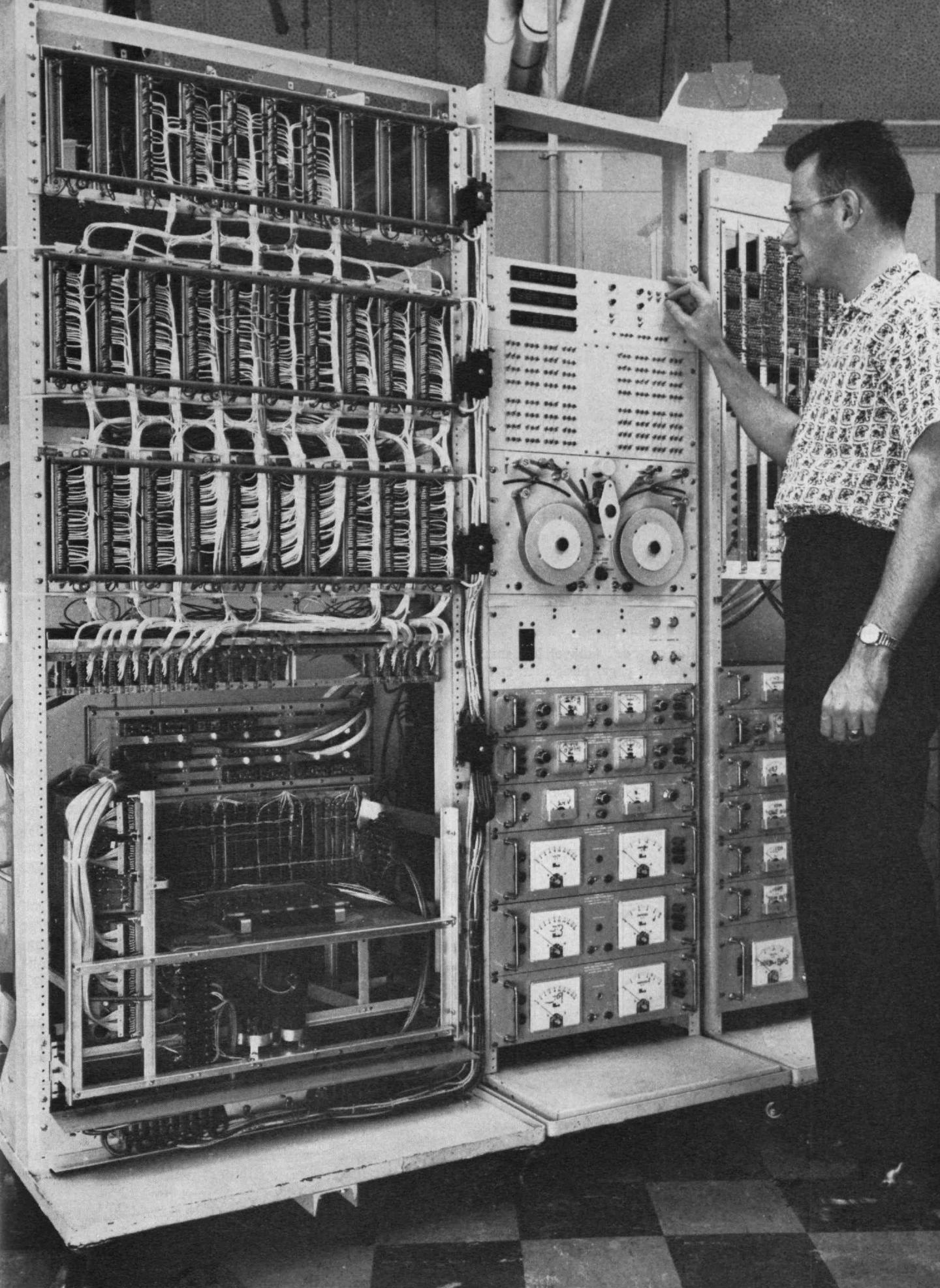
This high clock rate was achieved with improved transistors, now in commercial production, which were developed under subcontract with the collaboration of Lincoln's Computer Components Group. "Plated-circuit" wiring was developed to simplify and improve the performance of its circuits at high frequencies.

The time needed to take a word out of a computer's memory and put a new one in is called the *read-write cycle time*. Ferrite core memories made it possible to attain a read-write cycle time of 10 microseconds in Whirlwind and cycle times in today's very fast machines that range from 2 to 12 microseconds. The read-write cycle time of the FX-1 is only three-tenths of a microsecond, thanks to the development of thin magnetic film memory elements.

Such elements are made by evaporating or plating magnetic material on a glass plate. In the magnetic film



Round dots were first magnetic film memory elements. Rectangular elements are used in Lincoln's FX-1 computer.





The FX-1's thin magnetic film memory (above) has small bright rectangles (in picture on next page) positioned at in-

memory that Lincoln added to its TX-2 computer two years ago, these elements were little round dots. In the FX-1, however, the spots are rectangles, and the plates bearing them are placed between printed-circuit wiring on resin-impregnated glass-fiber cloth in such a way

tersections of particular pairs of vertical and horizontal conductors on a printed-circuit wiring assembly.

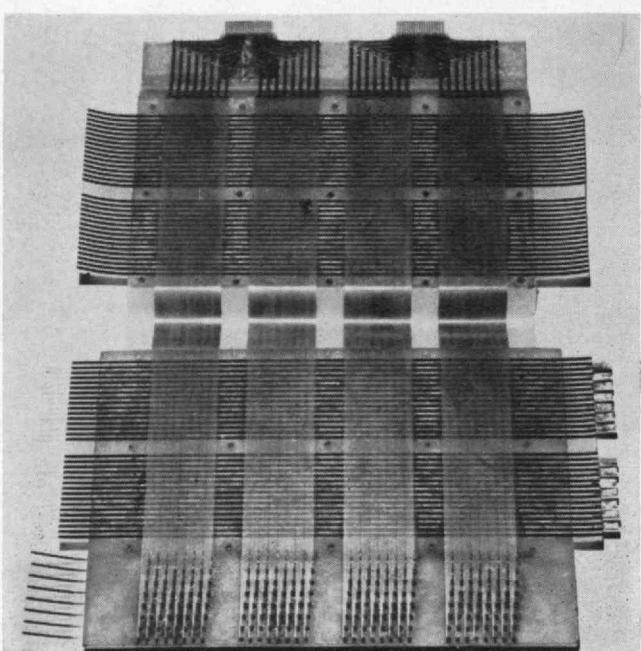
that each element rests on the intersection of two perpendicular leads on the writing sheet.

The packaging of the logic circuits is another distinctive feature of the FX-1. These are in compact plug-in units of 12 standardized basic types. And these units, in turn are mounted in trays that plug into the computer frame. Some of the 13 different types of trays have the plated-circuit wiring (as contrasted to the printed-circuit wiring of the plug-in units) which was designed to have uniform impedance characteristics.

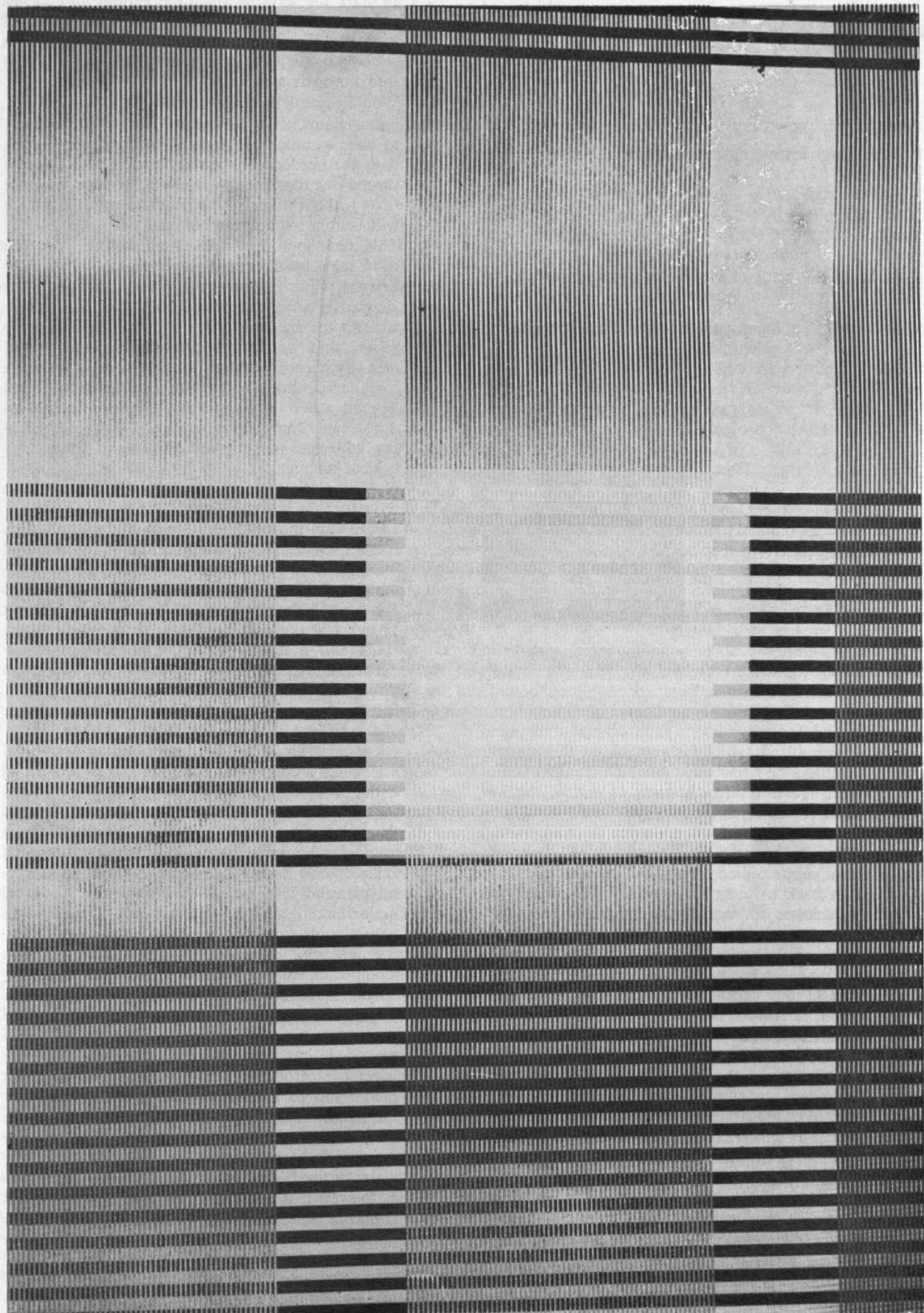
Compared to other computers, the FX-1 is a midget. It contains only 3,000 transistors, whereas one large commercial computer now calls for 200,000. The capacity of FX-1's memory, 3,300 bits at present, is to be quadrupled but still will be small compared to the 2,500,000-bit capacity of the TX-2.

Nevertheless, the FX-1 is clearly ahead in the race for speed and most of the components and construction techniques employed by its builders are regarded at Lincoln as quite conservative. "The fabrication of uniformly good magnetic film memory elements is, at the moment, largely a laboratory process," says William N. Papian, '48, leader of the Lincoln Digital Computers Group. "But with this one possible exception industrial production of computers with comparable performance should offer no serious problem."

Among those associated with Mr. Papian in the FX-1's development were Wesley A. Clark, Jr., '55, Jack L. Mitchell, '57, Jack I. Raffel, '54, and Kenneth H. Konkle, '57. M.I.T. operates Lincoln Laboratory with joint support of the Army, Navy, and Air Force.



The upper half of this printed-wiring sheet is folded over the plate bearing the thin rectangles of magnetic material.



Books

Interesting Unnecessary Remarks

TO ADVERTISE a five-volume HISTORY OF SCIENTIFIC THOUGHT edited by Professor Giorgio D. de Santillana, the University of Chicago Press wrote to him for help. Some of the publisher's questions, and the replies of the M.I.T. Professor of the History and Philosophy of Science, as reported to the press, follow:

Q.—Mr. de Santillana, you have written a book on the origins of scientific thought and are editing a series on its history. Why do you consider this project necessary?

A.—I don't in the least. No book is necessary, save the Good Book. I thought it might possibly be useful.

Q.—Useful, perhaps, in bringing science back in touch with the humanities?

A.—You are opening up an area in which banalities abound, you know.

Q.—Let's try to keep away from them.

A.—Frankly, I don't think a rapprochement between science and humanities is possible at the present. One of the very few ways in which it might be accomplished is to treat science as one of the humanities, which it emphatically is . . .

Q.—Before we proceed further, do you have a personal definition of science?

A.—Why? I suppose Webster's definition is still good.

Q.—To go back to your last answer but one, do you treat science as one of the humanities in your book?

A.—Well, when the series was first conceived, I thought of its purpose as trying to locate the launching ramps of the various ideas and the moment of take-off, then trace the idea to the point of impact in a later period. My "personal" working titles were: "Take Off," "Goof Off," "Ideas in Orbit," and "Nose Cone Revisited." In reply to the question, yes.

Q.—What did you set out to do in "Take Off," or as it is now called, *THE ORIGINS OF SCIENTIFIC THOUGHT: From Anaximander to Proclus—600 B.C. to 500 A.D.*?

A.—I wanted to provide the foundation for the series. There is a certain period going from 600 to 300 B.C. which has really provided all the possible approaches, or shall we say the pack of cards that we can play. We can find new games, but the pack is still the same. I have been concerned, therefore,



Professor de Santillana

to mark the ways in which the various approaches to science are stated for the first time and explored in many directions. This provides the map on which we can follow the course of thought down into our own times.

Q.—Would you call the series an anthology?

A.—I don't know what I'd call it. The initial plan was to have as much as we could of the original texts with the needed commentary and introduction. It turned out that not much could be done with the texts without a fairly complete presentation, so we will average out at about half and half.

Q.—This technique has been used before. Do you think it has been generally successful?

A.—For the publisher, perhaps, but the public is often cheated because the subject matter is only accessible to the specialist. Our attempt is to show the roots (that word!): to present the fundamental ideas of science as they start and develop from the social and cultural context, without following them beyond a certain degree of complication, the essence being that it must be generally accessible to the educated person, and allow him to use his critical judgment.

Q.—Stylewise (that word!), what audience did you write for?

A.—I have kept in mind the average reader of the *Scientific American*. Remember, the fundamental ideas of science are philosophically profound, often clear, always vital. The technical developments are beyond the common public, and any attempt at vulgarization will always lead to false impressions and a feeling of black magic. Sometimes even scientists do not really know what they are doing, and operate by guess and by God.

Q.—In other words, scientists themselves need a sense of the history of their discipline?

A.—Of course. Too many of them consider history of science as a collection of past mistakes which had better not be dug up. This is what has isolated them from the cultural world and turned some of them into dangerous gadgetting maniacs. Great scientists, however, have always understood what I have been saying and have contributed themselves validly to the philosophical and historical understanding of their discipline. The obvious names come to mind: Einstein, Bohr, Weyl, Poincaré, Mach, Heisenberg, Schroedinger, D'Arcy Thompson, Russell, Wiener.

Q.—Any message for budding scientists?

A.—You mean students? Permit me to address myself to teachers as well. As far as education is concerned, it has been realized that one of the few ways of introducing the T-square boys to our planet and its human vicissitudes is to give them the feeling that science sprang from a given context of ideas which are really the whole of a civilization. We have found in fact that one of the few ways to teach history of ideas to M.I.T. students is to weave it around the evolution of scientific concepts. Science is never full blown. It is a hazardous endeavor stretching out perilously over uncharted territory, and an important way of knowing where we are going is to try to understand where we started from.

Khrushchev's Ticket to Tomorrow

The new program for the Communist Party is a personal triumph and it leaves Lenin's pledge of eventual political freedom unkept

BY HERBERT RITVO

THE DRAFT PROGRAM of the Communist Party of the Soviet Union, published last July 30, is simultaneously an introduction to the forthcoming 20-year plan for economic development of the Soviet Union—and the Sino-Soviet bloc—a review and restatement of Marxist-Leninist theory and practice, a rationalization of current policies, and a guide for future action. As a general program, it is essentially a doctrinal manifesto which marks a new phase of N. S. Khrushchev's personal rule by placing him in the direct line of succession to Lenin as the ideological interpreter and political leader of world Communism.

The first (1903) program of the Party, then the Russian Social Democratic Labor Party, was fulfilled, in the opinion of Party historians, by the Bolshevik seizure of power in 1917. The second (1919) program, drawn up by a committee of seven including Lenin, Bukharin, Zinoviev, Trotsky, and Stalin, was designed to direct the "dictatorship of the proletariat" during the transition period between the capitalist past and the vaguely imminent socialist future. Despite Stalin's liquidation of five members of the drafting committee, this document retained its validity for more than 40 years, but has been totally ignored in Soviet propaganda because of its irrelevance to the reality of the last three decades.

Khrushchev was not even a member of any of the various commissions which sought to revise the second program between 1939 and 1956. But now he has brought forth a document which, for the time being at least, becomes Communist dogma. In view of Stalin's record of abortive attempts to complete the long-delayed overhauling of the Party's doctrinal foundations, Khrushchev's speedy success is an

HERBERT RITVO, research associate in the M.I.T. Center for International Studies, intended to become a biochemist when he entered Harvard in 1932, but soon became absorbed in foreign affairs. After serving in the U.S. Army Counter-Intelligence Corps, he edited a German language publication for the U.S.I.A. and became associated with Radio Free Europe. He has studied the Soviet Union, China, the satellite states, and the world Communist movement for many years, and has written extensively on these subjects.



accurate reflection of the consolidation of his personal power and his heightened status as a theoretician. Since Lenin alone is, according to all official Soviet texts, the father of the two previous programs, the identification of Khrushchev with the 1961 draft has endowed him with a distinctive attribute of leadership hitherto monopolized by Lenin.

In the draft program the long campaign, consistently and consciously waged to lift Khrushchev's tactical maneuvers to the level of programmatic principles, has been crowned with total victory. But the new program, however much of its labored rhetoric is eventually transformed into reality, will not be able to cover the scars which Stalinist socialism branded onto its fundamentally humanitarian predecessors.

Persistent Illusions

In the text of the new program one immediately notes the recurrence of ideological stereotypes, the reaffirmation of familiar hopes, and the reiteration of persistent illusions. Despite the passage of 42 years, during which the impotent Imperial Russia of the Tsars was transformed into the mighty Soviet Union of the Commissars, the new program does not mark a new milestone in the development of Communist theory. Denying its real parentage—by failing to acknowledge either Plekhanov (1903) or Bukharin (1919)

—the program seeks to mask the illegitimacy of its prerevolutionary birth and its postrevolutionary adolescence behind the father image of V. I. Lenin; similarly, it ignores completely the personal contribution of Stalin to the state's growth to industrial maturity, by attributing his positive works to Lenin. Of the misdeeds of Stalin which Khrushchev condemned in 1956, there is no word in 1961. In its review of the past the new program is hardly more than another rewriting of Soviet history by omission.

Nevertheless, neither the staleness of its philosophy nor the sparsity of long-range economic data in it can obviate the need for us to comprehend the meaning of this program which is destined to offer basic guidance to the world communist movement. At its dogmatic worst in its survey of modern capitalism, the draft stubbornly refuses to come to grips with the failure of Western industrial societies to fulfill the predictions of Marx and Engels or the prophesies of Lenin. Replete with rephrasings of the second program's forecasts of the still impending doom of capitalism, the new document neither offers a meaningful rationalization for the nonappearance of the long-awaited major post-World War II depression nor provides convincing evidence of the constantly invoked "relative and sometimes absolute

deterioration in the position of the working class."

Proclaiming the Khrushchev doctrine of peaceful coexistence, and again denying any "fatal inevitability of war," the program leaves open the possibilities of "peaceful and parliamentary roads to socialism"—but only in the narrowest interpretation predominant since the execution of Imre Nagy in 1958. Pointing out that "Communists have never maintained that . . . the road to revolution runs through wars between countries," the program has none of the frequently alleged concessions to the more "aggressive" Chinese viewpoint so widely publicized in 1960. Only the new concept of "national democracy" as a path to socialism for countries which permit Communist participation in government (Cuba and Indonesia, for example) may be considered a relatively original note in the dreary jargon of the text. Finally, in its denunciation of all forms of non-Soviet socialism, from the reformist Scandinavian, British, German and Austrian models to the "revisionist" Yugoslav variety, the program paraphrases—almost literally—the classic arguments of the Comintern and Cominform in relatively restrained language.

Productivity Promised

As an economic document the program presents only the barest outline of a 20-year project for economic, social, and educational progress. On the basis of past performance there is every reason to take this projection into the future seriously, however, in the heavy industrial sectors at least, and to resist the temptation to consider the whole a mirage because of the impracticality of some of its parts.

Meeting the targets of a 150 per cent increase over current (1960) gross industrial output by 1970 and a 500 per cent increase by 1980 will require the continued maintenance of an average rate of growth of nearly 10 per cent for the next two decades. For the planned increase in steel production to 250 million tons by 1980* (from 65.3

* This is actually somewhat lower than the 1960 goal of 265 million tons given by Khrushchev in an interview with J. Curran (Pres., National Maritime Union) in July, 1960 (N.Y. *Times*, Aug. 16, 1960).

million in 1960) the growth rate of the last two years must be held for the entire period; to expand electric power output from the 1960 level of 290 billion KWH to from 900 to 1,000 billion KWH in 1970, and 2,700 to 3,000 billion KWH in 1980, a slight acceleration to an annual increment of 12 per cent must be achieved. In 1946, when making a 15-year prediction for the production of steel (50 million tons), oil (50 million tons), and coal (500 million tons), on the basis of a war-ravaged economy, Stalin erred on the conservative side; in 1961 Khrushchev, making his prognostications on a much more solid foundation, shares little of his predecessor's conservatism, and his estimates—in heavy industry—will be certainly closer to the mark than Stalin's.

In a carefully qualified evaluation of the 20-year goals as defined in the program, *The London Economist* (August 15, 1961) has concluded that "there is no reason why Soviet industrial output should not forge ahead to its planned targets." But there are, naturally, some dissenting opinions. To Naum Jasny, a leading specialist on the Soviet economy, for example, the 20-year plan "marks a return to the unrealities in planning . . . the only industrial target which may be reached under favorable conditions is electric power" (*Christian Science Monitor*, August 16, 1961).

Regarding the agricultural targets there is almost total unanimity of skepticism—only the degree of doubt varies. From the same perspective of the past, there is little reason to believe that the abysmal record of Soviet farm output in the last 30 years can be suddenly improved to the extent the goals require. Despite a lack of progress in the first two years (1959-1960) of the seven-year plan after considerable advance between 1953-1958, grain production is expected to more than double by 1980, meat output is to increase "threefold in the first decade and fourfold in 20 years," and milk production is to "double by 1970 and rise threefold in 20 years." In the last decade, however, only a 5 per cent average annual gain was obtained in over-all agricultural output.

The goal of an annual rate of growth of 10 per cent in the sector

for the 1960-1970 period—equal to that planned for industry—seems even more remote when it is recalled that almost the entire gain of the post-Stalin period derived from the tremendous extension (40 million hectares) of sown areas—a most effective input factor that is not likely to recur in the next decade. To double yields per hectare, which is the essence of the program's target for grain, is a near impossibility in an economy on the Soviet scale. Yet the grain target is still of an order of magnitude which in 20 years might be approached with 75 per cent fulfillment. The meat and milk goals, requiring multiplication of output by factors of two to four in the forthcoming decades, can only be considered fantastic.

The Farm Labor Problem

Even more unlikely of attainment are the planned increases of 150 per cent (by 1970) and "five to six times" (by 1980) in the productivity of agricultural labor—expectations which Jasny deems "stupendous" and "completely unfounded." These exceed the gains in productivity and wages expected for the industrial labor force. The investments to improve productivity will have to be enormous, but there is no indication of the allocation of resources through which this transformation is to be achieved.

The program contains little more than the usual platitudes concerning "elimination of socio-economic and cultural differences between town and country." Noteworthy, also, is the lack of comment with respect to the controversial process of changing the collectives into state farms. Nor is there any enlightenment as to how the eventual disappearance of the private plots and individual livestock holdings, which still account for nearly 50 per cent of the meat and milk and most of the vegetables reaching the consumer, is to be brought about.

At best, in the event that the 1980 targets are reached, Soviet agriculture will only have reached current U.S. levels with at least a threefold labor force. Success would signify, however, that the major weakness in the Soviet economy and the greatest obstacle to improved urban living standards—the stubborn, passive resistance and low productivity of the peasantry—had

been broken. Agriculture, if the program's objectives are approached could be fully incorporated at long last into the Soviet planning processes. In 1961, even with the prospects of a record grain harvest of perhaps 150 to 155 million tons, the fulfillment of the agricultural targets has little more prospect of realization than the unkept pledges of the past.

More Things for Nothing

It does not require an overly close scrutiny of the program to realize that the abundance of goods and services which a communist society must provide is not promised for 1980. The fulfillment of the slogan of satisfaction "according to need" is, moreover, not to be a matter of individually determined personal requirements. Instead, the emergence of a kind of collective egalitarianism, based on carefully calculated "rational" consumption norms for food, clothing, consumer goods and services, will mark the next phase of communist development.

Primarily in those sectors where controls can be readily applied there will be a gradual transition to free distribution of either goods or services; but these highly propagandized free items currently involve a relatively small percentage—approximately 15 to 20 per cent—of total consumer expenditures. Rental charges, now less than 5 per cent of average incomes, are to be eliminated, but new housing in large apartment blocks still will be centrally allocated; by 1980, the present nine square meters per person in shared quarters (in the U.S. the comparable figure now is 27 square meters) should have grown to a little more than an average of 10.5 square meters per person in individual apartments for every family, including newlyweds.

In addition to free housing, and by 1980 such utilities as heat, light, gas, and public transportation, the advance of communism is to bring a vastly expanded network of communal feeding facilities, continued reduction of the working time to a six-hour day in a 30 to 36-hour week, free education from the boarding school through the university for some, and through 11 grades for all, and free medical care from the cradle to the grave. In one form or another, all of these have been promised before.

Yet, despite all reservations, there will be a meaningful, if not precipitous, advance towards a communist welfare state under Khrushchev in the coming decades. To a certain extent it will be possible to measure statistically the progress in this direction by the increase in the social consumption funds, which are to account for 50 per cent of average real wages in 1980, compared to from 30 to 40 per cent at present. The savings of the 15 to 20 per cent of wages now being spent on what will be free services and goods in the future will represent a change of only 1 per cent a year, which is certainly the minimum for any program presenting a design for a communist society. To finance these benefits, despite the abolition of personal income taxes, does not pose any problems; the increased revenues from the turnover taxes on the planned expanded consumer goods sales, and taxes on the growing profits of industrial enterprises, will provide more than sufficient funds during the first phase of communism. Money, prices, and profits are to remain, not as despised vestiges of a gloomy past, but as respected symbols of a glowing future. For most material personal needs, Soviet workers still will have to depend primarily on the earnings from their labor, and this will be true to an even greater extent for the peasantry, who still make up nearly one half of the population and only now—after four decades—are to become eligible for the social security benefits listed in the program for 1970 and after.

The Party Will Not Wither

Consistent with classical theory, the coming era of economic abundance is to have as its political corollary "the withering away of the state." But just as the full material benefits of communism must await a still indeterminate date beyond 1980, the Soviet state has been granted another reprieve from its doctrinal death until communism has won its "contest with capitalism in the international arena." In achieving this victory, a greatly improved system of economic co-operation with the other members of the Sino-Soviet bloc is to move these countries, with economies as different as those of N. Viet Nam and the DDR, and problems as varied as those of China and Czechoslovakia, "more or less



A cartoon from "Pravda."

simultaneously towards communism." But since socialism has been "fully and irrevocably" established in the Soviet Union, the Soviet state, according to Khrushchev's major theoretical innovation in the program, is no longer a "dictatorship of the proletariat"; it is now, we are told, the state of an entirely classless society and the dictatorship and its "coercive organs" can be gradually dismantled by a transition to "communist self-government which will embrace the Soviet trade unions, co-operatives, and other mass organization of the people."

No clue is given to the stage at which such nascent forms of socialist administration will be sufficiently developed to permit the Party to dispense with the instruments of coercion which have always been considered essential to Marxist-Leninists.

The monopoly of power of the Communist Party is neither challenged nor diminished. On the contrary, as Khrushchev has stated on numerous occasions, there will be "a further enhancement of the role and importance of the Party as the leading and guiding force of Soviet society." Although the proposals to limit the period of office for all indi-

(Concluded on page 56)

Institute Yesteryears

25 Years Ago . . .

PRELIMINARY 1936-1937 registration figures showed a total enrollment of 2,781 (up 237 from the previous year), including 602 (up 85) in the Graduate School and 636 (up 68) entering freshmen of the Class of 1940.

Equally encouraging news was to be found in the third Annual Report of Treasurer Horace S. Ford covering fiscal 1935-1936, during which, for the third year in succession, the Institute had lived within its budgeted income.

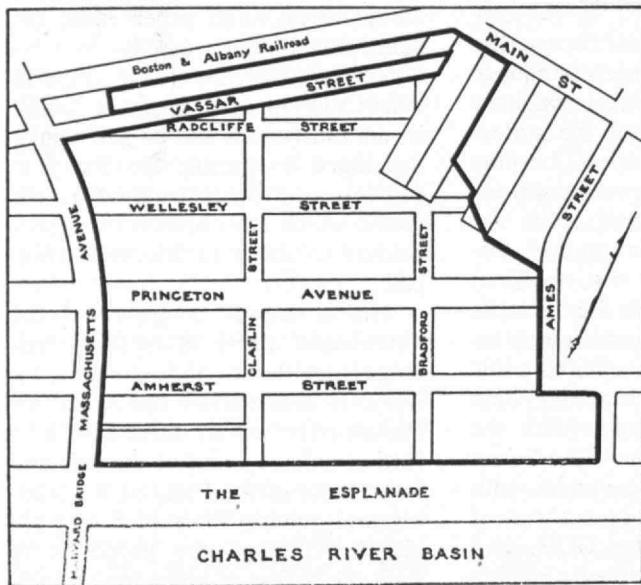
As The Review editors noted, "There was a balance resulting from operations of \$4,614.69. There were also credits from the results of previous years' operations amounting to \$4,021.67. These items, applied to the Institute's all-time cumulative operating deficit since 1865, reduced the latter to \$16,314.86. . . .

"The balance sheet shows endowment funds totaling \$32,327,617. . . . The market value of all securities held June 30, 1936, was 113% of their book value, the figures for the previous years being: 66% in 1932; 82% in 1933; 93% in 1934; and 102% in 1935."

¶ Professor B. Alden Thresher, '20, became Director of Admissions; and among the new Faculty members welcomed at the opening of 1936-1937 was Arthur von Hippel, as Assistant Professor in the Department of Electrical Engineering.

50 Years Ago . . .

"ATTENDANCE AT the Institute continues to increase slowly as it has for several years past," observed The Review. "The present enrollment of 1,567 [for 1911-1912] is within 41 of the high-water mark record of 1902-1903, the last year of the \$200 tuition fee. . . ."



A Cambridge site as shown in the November 1911 Review.

¶ The Annual Report of William B. Thurber, '89, Treasurer of the Institute, covered the nine-month period from September 30, 1910, to June 30, 1911, since the Executive Committee of the Corporation had voted to change the Institute's fiscal year from October-September to July-June.

Mr. Thurber reported that during the nine-month period current income had been \$484,199, which was \$9,264 more than the expenditures. The invested assets had declined by \$30,156 to a total of \$2,184,561, but the book value of the educational plant was unchanged, at \$1,703,036.

¶ In The Review for November, 1911, it was announced "that a site for the New Technology had been chosen on the Cambridge side of the Charles River Basin opposite the Back Bay section of Boston, between Harvard and West Boston bridges; the purchase of this land being contingent upon the closing of certain streets on the property by the city of Cambridge and the delivery of a good title by the owners.

"The tract in question comprises nearly 50 acres of land with a frontage of nearly one-third of a mile on the Charles River Basin esplanade and about a quarter of a mile on Massachusetts Avenue. It extends back from the river to the tracks of the Grand Junction Railroad operated by the Boston & Albany. The property is crossed by several proposed and accepted streets, although these streets have not been actually constructed. The Corporation proposes as a condition of purchase, that the city of Cambridge close all these streets with the exception of Vassar Street which runs near the railroad tracks and parallel with them, and which will be extended to Main Street as a teaming thoroughfare.

"The announcement of the selection of this site was received with profound satisfaction by the Faculty and the Alumni as well as by the people of Boston. Although there has been much diversity of opinion as to which one of the contemplated sites should be selected, the strategic character of the land chosen, its wonderful possibilities of development, its generous area and its accessibility, appeal strongly to every interested person.

"The chief act now remaining to complete the transaction is an enactment by the city of Cambridge closing certain streets on the property, and in view of the numerous and cordial invitations which the Institute has received from representative bodies in Cambridge, to locate there, it seems likely that the conditions of acceptance demanded by the Institute will be complied with."

By the end of June, 1911, a decision had been reached favoring removal to Cambridge, providing the price for the land could be made right. But the eager expectations of the owners, of whom there were 35, brought matters temporarily to a halt over the summer. Negotiations were reopened in October, and on the 11th of that month, the Corporation voted to purchase the land at a price of \$775,000—some \$225,000 less than originally had been asked.

75 Years Ago . . .

REGISTRATION FOR 1886-1887 totaled 637, an increase of 28, or 4.5 per cent, over 1885-1886. There were 198 freshmen of the Class of 1890, or 11 more

(Concluded on page 70)

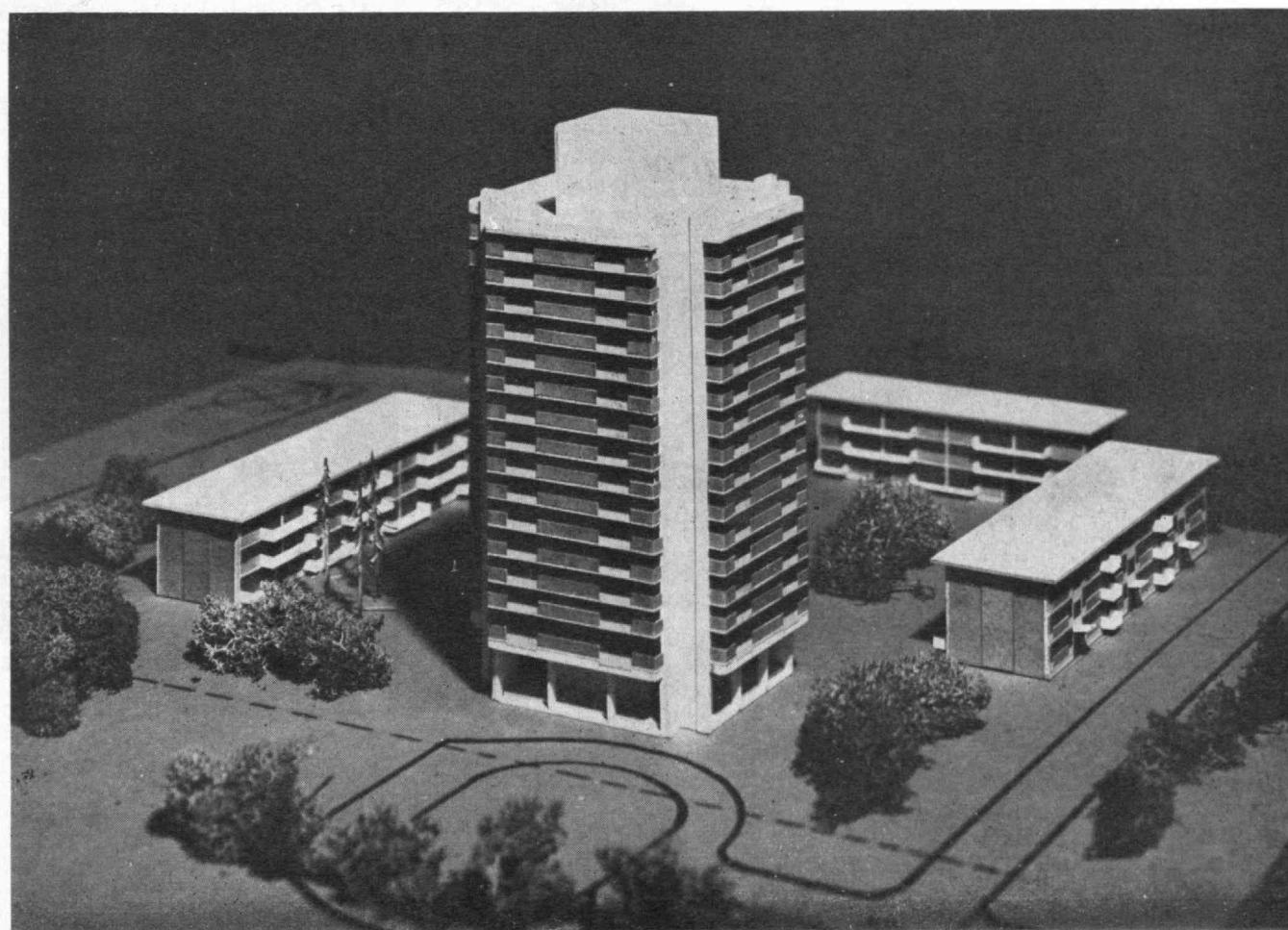
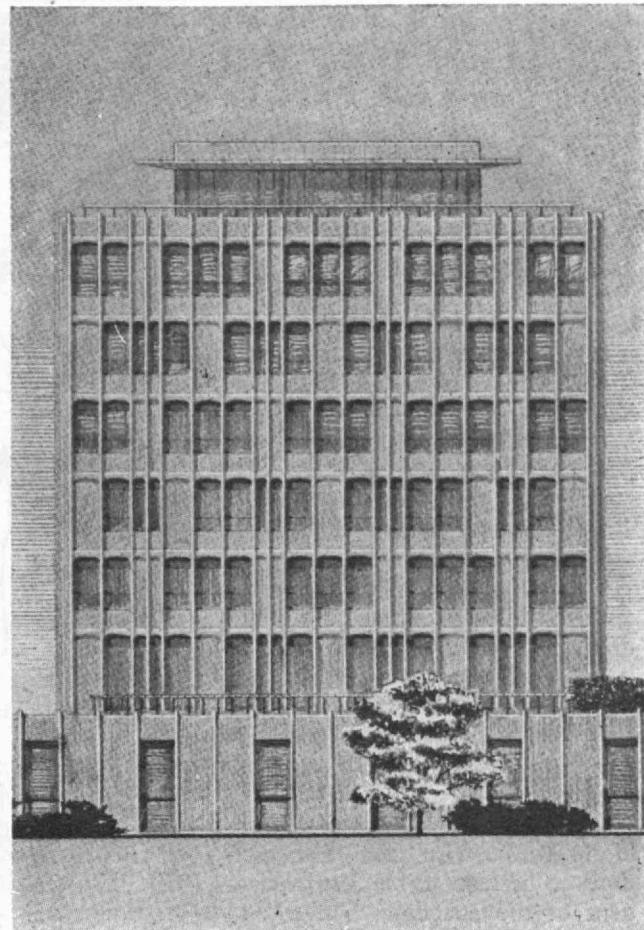
New Buildings to Rise at the Institute Soon

THE MOST BUILDING that M.I.T. has undertaken in many years will get under way next year. In addition to the Green building for the earth sciences, new housing for married students and a new women's dormitory are scheduled to go up in the near future.

A sketch of the proposed facade for the women's dormitory is at the right. This structure will be at the corner of Memorial Drive and Danforth Street, where many visitors to Kresge Auditorium have parked heretofore. It will accommodate 125 women students (new parking places are to be provided elsewhere). Anderson, Beckwith and Haible are the architects.

Below is a study model for the married students' apartments to which five acres have been allocated on West Campus. The high building will have 90 efficiency apartments and 60 one-bedroom apartments; the low ones nearby will have 60 two-bedroom apartments. This is a self-amortizing project financed with the help of the Housing and Home Finance Agency. Hugh Stubbins and Associates are the architects.

Emeriti professors were among the first to hear about M.I.T.'s building plans. Twenty-eight emeriti, including Professor Charles E. Fuller, '92, who is now 90 years old, heard Ovadia R. Simha, '57, Planning Officer, describe the plans for the future at their meeting last spring.



Staff News

Two New Vice-presidents Are Appointed

M.I.T. BEGAN the current academic year with two new Vice-presidents, *Philip A. Stoddard, '40*, and *Malcolm G. Kispert, '44*. Mr. Stoddard is concerned with Operations and Personnel, and Mr. Kispert with Academic Administration.

Mr. Stoddard, who was formerly Vice-treasurer, now has executive responsibility for all of the Institute's physical facilities, the planning and execution of construction work, and the management of housing and dining facilities. He also has broad responsibilities for personnel policies, procedures, and management.

Mr. Kispert, who formerly was administrative vice-chancellor, continues to be responsible for management of the academic budget and allocation of space for academic purposes. He also represents the President on administrative matters affecting the offices of Student Affairs, Admissions, Student Aid, the Registrar, the Medical Department, Placement, and Public Relations.

Mr. Stoddard has been associated with M.I.T. since becoming an as-



Philip A. Stoddard, '40



Drawings by Henry B. Kane, '24
Malcolm G. Kispert, '44

sistant to the executive officer of the Instrumentation Laboratory in 1947. Mr. Kispert became assistant to President Karl T. Compton in 1946, and has filled key posts at the Institute ever since.

Joseph J. Snyder, '44, Carl F. Floe '35, and James McCormack, '37, also serve M.I.T. as vice-presidents.

Professor Overage

THE DIRECTOR of Lincoln Laboratory, *Carl F. J. Overage*, has been appointed professor of engineering

at M.I.T., and is now assisting the Dean of Engineering and the Engineering Council in an advisory capacity on matters relating to the organization of new educational activities and the Research Centers in the School of Engineering.

Dr. Overage has long sought to bring many of the basic research and engineering activities of Lincoln Laboratory into closer relationship with the educational objectives of the Institute, and his new appointment will facilitate this work.

(Concluded on page 42)



Joseph J. Snyder, '44



James McCormack, '37



Carl F. Floe, '35

BUSINESS IN MOTION

To our Colleagues in American Business ...

How would you like to save \$100,000 this year? One of our customers learned how. This leading manufacturer—you'd recognize the name immediately—is a heavy user of copper and its alloys. It buys sheet, strip, tube and rod, by the hundreds of tons annually.

Recently this company invited the Revere Technical Advisory Service to inspect its operations, study its metals needs, analyze its buying practices and look into specifications — all with an eye toward accomplishing possible savings. The Revere people were actually treated as members of the crew at the company's plants; nothing pertinent was kept secret, no knowledge hidden.

The result was recommendations all down the line on every phase of copper alloy procurement and use. Here a new alloy was recommended, there a new way of handling the metal. In one instance individual shipment sizes were trimmed down, in another the change of gauge eliminated scrap entirely and provided more pieces per coil. We cite only a few examples. There were many more. And when the Revere Technical Advisory Service

had completed its study, specific and concrete recommendations were made to the metals user. These actually showed the way to make an astonishing saving . . . well over \$100,000 annually!

Naturally, not every company can expect to realize such vast savings as these. Too many variables enter into any such study. But if detailed knowl-



edge of metals, their manufacture and their uses be applicable to *your* product and *your* production, why not — without obligation — call in a Revere Technical Advisor and bring his experience to bear on your problem?

You can discuss your metals problems and production procedures with him in the utmost confidence. He may be reached simply by calling or writing the Revere Office nearest you. No obligation, of course.

In fact, it will generally pay you to take every one of your suppliers into your confidence; discuss your problems in detail. Thus you will add their abilities and experience to your own, to the eventual advantage of both your company and your suppliers.



REVERE COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

Executive Offices: 230 Park Avenue, New York 17, N. Y.
Distributors Everywhere

Staff News

(Concluded from page 40)

Heads Two Departments

BOTH the Department of Mechanical Engineering and the Department of Naval Architecture and Marine Engineering are now headed by Professor H. Guyford Stever, a member of the Faculty since 1946.

"The appointment of one man to head two departments is not without precedent at M.I.T., and it in no way means that we are combining the Department of Mechanical Engineering with that of Naval Architecture and Marine Engineering," President Julius A. Stratton, '23, said in announcing Professor Stever's appointment.

"Under Dr. Stever, each department will retain its professional identity and will award degrees in its own fields of specialization. At the same time, both departments have common interests in a number of areas, and the new administrative structure should strengthen these collaborative efforts to the mutual advantage of each department."

In the Department of Mechanical Engineering, Professor Stever succeeds Professor Joseph H. Keenan, '22, who has resumed full-time teaching and research; and in the Department of Naval Architecture

and Marine Engineering he succeeds Professor Laurens Troost, who retired in 1960 to return to Holland.

Professor Stever received his doctorate in 1941 at the California Institute of Technology and first came to M.I.T. as a member of the Radiation Laboratory's staff. He was formerly chief scientist of the U.S. Air Force, was associate dean of the School of Engineering from 1956 to 1959, and is currently president of the Institute of the Aerospace Sciences, Inc.

Director of Athletics

Ross H. SMITH, director of physical education and assistant athletic director at Cornell University since 1952, replaced Richard L. Balch as M.I.T.'s Director of Athletics in August. Mr. Balch resigned to accept a position at Stanford University.

Mr. Smith has been a coach and athletic administrator since he was graduated from Springfield (Mass.) College in 1936. After coaching at Brighton High School in Rochester, N. Y., he received a master's degree in education at the University of Rochester in 1947 and went to Cornell as a soccer and basketball coach.

At Springfield he was outstanding in lacrosse, soccer, and basketball, and was named to the All-New England lacrosse team and the All-American soccer team. His lacrosse teams at Cornell have made remarkable records.

Mr. Smith has been one of the East's leading basketball officials for several years and was president of the U.S. Intercollegiate Lacrosse Association in 1957. He was in charge of the successful tour of the combined Cornell-Dartmouth-Yale soccer team in Bermuda in 1952, and conducted soccer clinics for service coaches in 1955 and 1956 at the invitation of the Commanding General of the U.S. Army in Europe.

At M.I.T. he will supervise the coaching staff and physical education instructors and direct the large and varied athletic plant that now includes the Du Pont Athletic Center, Briggs Field House, Rockwell Cage, the Armory, the Alumni Pool, and more than 20 acres of tennis courts and outdoor playing fields.



Henry J. Zimmermann, '42

RLE's New Director

TO SUCCEED Professor Jerome B. Wiesner, who is on leave of absence in Washington, as director of the Research Laboratory of Electronics, President Stratton has appointed Professor Henry J. Zimmermann, '42. His previous responsibilities as associate director have been assumed by Professor Wilbur B. Davenport, Jr., '43.

Professor Zimmermann has been a member of the Faculty since 1946 and is co-author with Professor Samuel J. Mason, '47, of two recent books, *Electronic Circuit Theory* and *Electronic Circuits, Signals, and Systems*.

Professor Davenport returned to the Department of Electrical Engineering last year after nine years at Lincoln Laboratory. He is co-author with William L. Root, '43, of *An Introduction to the Theory of Random Signals and Noise*.

Professor Walter A. Rosenblith is serving as acting chairman of the Steering Committee of the Center for Communication Sciences during Professor Wiesner's absence.

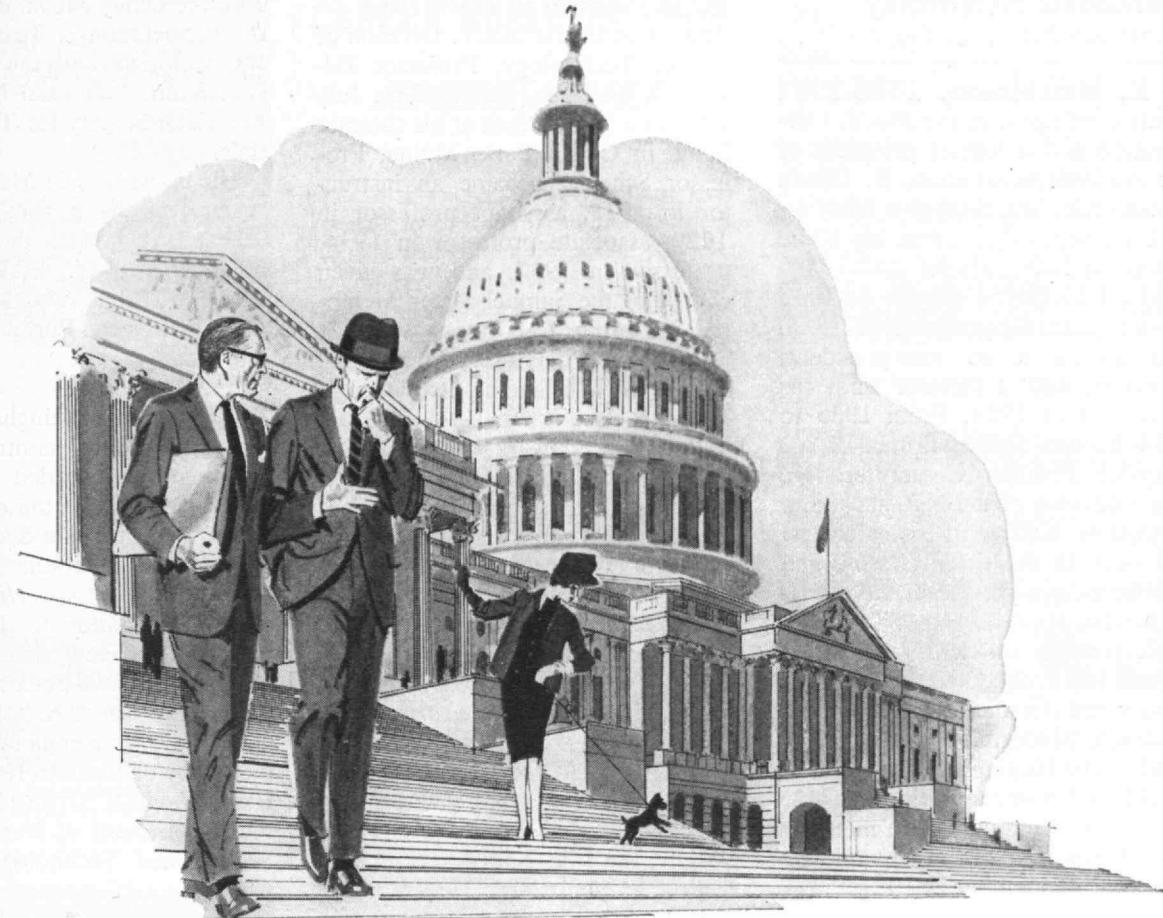
OEG Appointments

THE DIRECTOR of the Operations Evaluation Group (OEG) of M.I.T., Jacinto Steinhart, has announced the appointment of Sidney K. Shear as Director of Research of the Naval Warfare Analysis Group, and the addition of Robert L. Hubbard and Edgar R. Terry to the OEG's staff in Washington, D.C.

Dr. Shear succeeds Douglas L. Brooks, '43, who joins M.I.T.'s Center for Earth Sciences.



Ross H. Smith



The Investor is “in Politics”

Thousands of government rulings, directives, regulations, contracts, contract cancellations, appropriations, and of course, *laws*, all have an impact on corporate earnings—and, naturally, on investment values.

How can the *individual* investor keep alert to such events, as they affect him? We doubt that he can—yet we find that these are factors we must use in shaping *our* investment decisions.

UNITED STATES TRUST COMPANY
OF NEW YORK
45 Wall Street

Individuals Noteworthy

(Continued from page 10)

B. E. Hutchinson: 1888-1961

A LIFE MEMBER of the M.I.T. Corporation and a former president of the Alumni Association, B. Edwin Hutchinson, '09, died of a heart attack on September 27 at his home in Grosse Point, Mich.

Mr. Hutchinson helped organize the Chrysler Corporation in 1924, and served it as vice-president, treasurer, and a director until his retirement in 1954. From 1935 to 1954 he was also chairman of the Chrysler Finance Committee. He was a director of the National Bank of Detroit. Earlier in his career he had been in the steel industry and had been vice-president and treasurer of the Maxwell Motor Co.

He served on M.I.T. Visiting Committees concerned with Aeronautics and Astronautics, Sponsored Research, Modern Languages, Economics, and Humanities, and headed the Alumni Association in 1941-42. He became an alumni term member of the Corporation in 1936, and was elected a life member in 1951.

E. R. Schwarz: 1899-1961

THE HEAD of the M.I.T. Division of Textile Technology, Professor Edward R. Schwarz, '21, died on July 27 after a heart attack at his summer home in Ocean Park, Maine. Professor Schwarz became an instructor in 1925, assistant professor in 1929, associate professor in 1934, professor in 1937, and was given charge of the Samuel Slater Memorial Research Laboratory when it was founded in 1945. He was one of the world's leading textile engineers.

Professor Schwarz was a founding fellow of the Textile Research Institute and had served as its vice-president and chairman of the Board of Editors of *Textile Research Journal*. He was also a fellow of the British Textile Institute and the American Association for the Advancement of Science, an honorary life member of the American Association of Textile Technology and the American Society of Quality Control, and a member of the American Institute of Physics, the Fiber Society, and the National Fire Protection Association. He received

both the Olney Medal of the American Association of Textile Chemists and Colorists and the Harold DeWitt Smith Memorial Medal of the American Society for Testing Materials.

His home was in Melrose and he is survived by a son, Edward H. Schwarz, '53, and two daughters, Mrs. Robert W. Perkins, Sr., of Ypsilanti, Mich., and Mrs. Kenneth E. Cox of Ocean Park.

Faculty Notes

THE George Westinghouse Award for outstanding contributions to teaching was awarded to Professor *David C. White* at the annual meeting of the American Society for Engineering Education. . . . Professor *Arthur R. von Hippel*, a frequent contributor to The Review, has been elected vice-president in charge of Fundamental Materials Research of the U.S. Sonics Corporation . . . Guatemala has awarded the Order of Rodolfo Robles to Professor *Nevin S. Scrimshaw*, Head of the Department of Nutrition, Food Science and Technology.

(Continued on page 46)

TYCO OPPORTUNITIES

the MATERIALS RESEARCH LABORATORY

Materials Research Laboratory provides the basic research capability for TYCO development and manufacturing companies, and for sponsored research programs. The laboratory, occupying new facilities on Route 128 in suburban Boston, is engaged in research and development of novel device materials, with emphasis on their fundamental properties. Present research efforts are in the field of new electronic, magnetic and high temperature materials for application in energy conversion devices: thermoelectrics, solar and fuel cells.

Positions exist for scientists with advanced degrees and a record of creative accomplishment in the following fields:

SOLID STATE PHYSICS and CHEMISTRY ELECTRO and SURFACE CHEMISTRY PHYSICAL METALLURGY CERAMICS

The laboratory encourages the publication of significant achievements and participation in the scientific community. In addition to excellent fringe benefits and salary, senior personnel are eligible to participate in a stock option program.

Please address inquiries to:

Dr. Arthur J. Rosenberg, Director
Materials Research Laboratory
Hickory Drive, Bear Hill
Waltham, Mass.



An equal opportunity employer.

DATA SCIENCES, INC. • MATERIALS RESEARCH LABORATORY • TRICONIX, INC. • TYCO SEMICONDUCTOR CORP.

CAREER BULLETIN FROM

BOEING

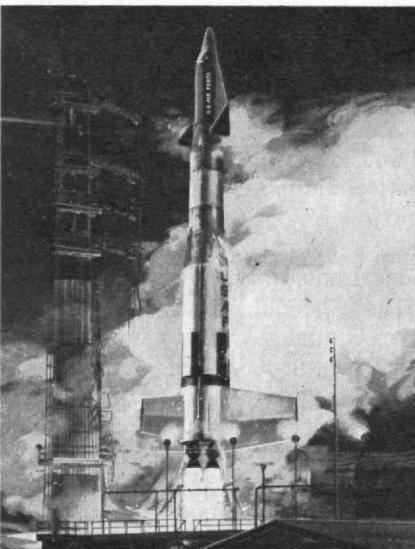
The continuing expansion of advanced programs at Boeing offers outstanding career openings to graduates in engineering, scientific and management disciplines. At Boeing you'll find a professional climate conducive to deeply rewarding achievement and rapid advancement. You'll enjoy many advantages, including up-to-the-minute facilities, dynamic industry environment, and company-paid graduate study programs (Masters and Ph.D.).



Drawing of newly announced short-to-medium range Boeing 727 jetliner. First 727 sale was largest in transportation history. More airlines have ordered—and re-ordered—more jetliners from Boeing than from any other manufacturer.



Boeing KC-135 jet tanker-transport is U. S. Air Force's principal aerial refueler. Thirty C-135 cargo-jet models of KC-135 have been ordered for Military Air Transport Service.



Dyna-Soar manned space glider is shown, in artist's concept, atop Titan ICBM for launching. Design will permit return for conventional landing. Boeing is prime contractor for glider and system.



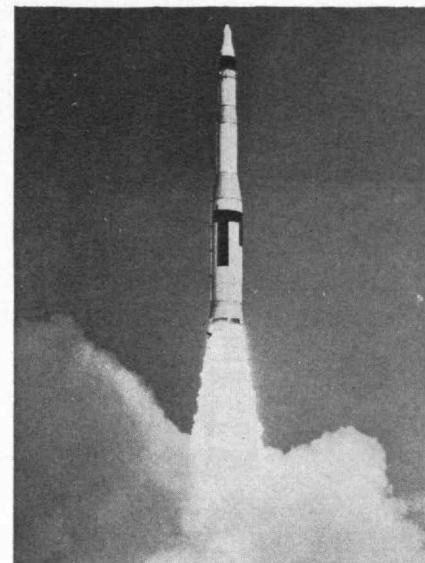
Boeing gas turbine engine powers this pleasure boat demonstrator. In other applications, Boeing engines power U. S. Navy boats and generators.



Boeing-Vertol 107 helicopter shown with famous Boeing 707 jetliner, world's most popular airliner. Boeing is world leader in jet transportation.



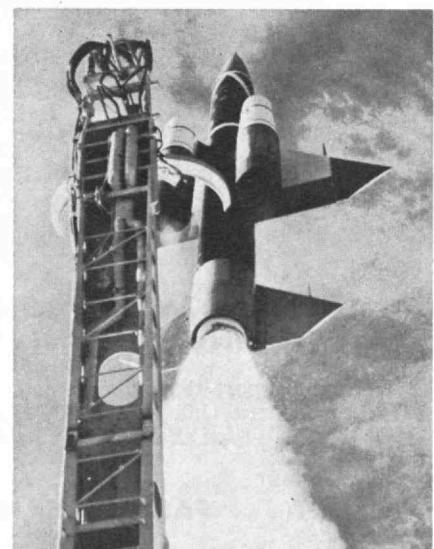
Boeing B-52H shown carrying mockups of Skybolt air-launch ballistic missiles. B-52s are also jet-fast platforms for Hound Dog guided missiles, and in addition carry regular load of gravity bombs.



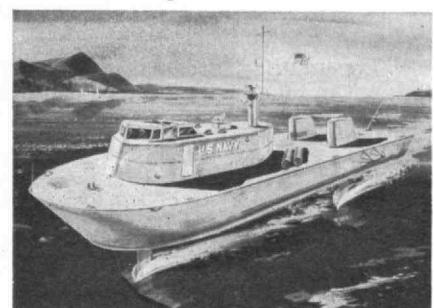
Minuteman, nation's first solid-fuel intercontinental ballistic missile, shown on initial flight—most successful first flight in missile history. Boeing holds major Minuteman contract responsibility.



Boeing Scientific Research Laboratories where scientists expand the frontiers of knowledge in research in solid state physics, flight sciences, mathematics, plasma physics and geo-astrophysics.



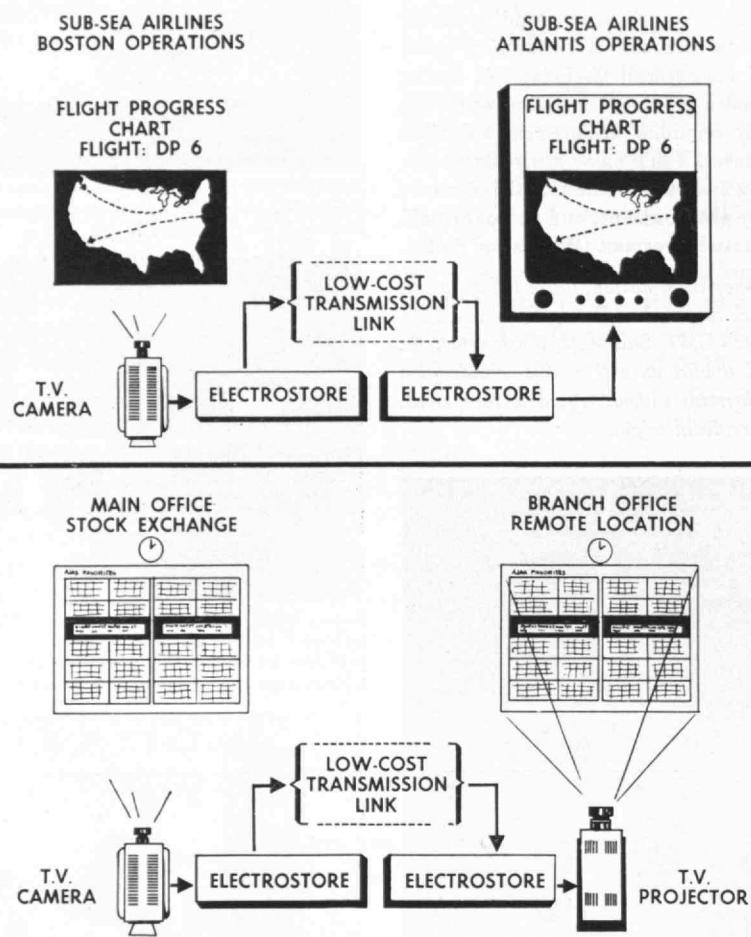
Supersonic Boeing BOMARC, longest-range air defense missile in U. S. Air Force arsenal, is now operational at Air Defense Command bases. New "B" model has range of more than 400 miles.



Drawing of 115-foot hydrofoil craft Boeing is building for U. S. Navy. Riding out of water, craft will "fly" at speeds up to 45 knots on underwater wings.

BOEING

NOW . . . TELEVISED PICTURES VIA TELEPHONE-TYPE LINES



BAND-WIDTH CONVERSION MAKES POINT-TO-POINT TV ECONOMICAL

From Airport to Airport . . . from Wall Street to Broker . . . from Central Office to Branch . . . Communication by Television over voice-type channels is now available.

FASTER THAN FACSIMILE

Far faster than facsimile, the system using Image Instruments' "Electrostores" now permits rapid, accurate, economical transmission of images and text. Sample-storage technique using high resolution television equipment allows quality reproduction after transmission over standard telephone lines.

For further information covering your particular application get in touch with Lester C. Smith '50, President.



2300 WASHINGTON ST.

NEWTON LOWER FALLS 62, MASS.

Telephone (Boston) WOODWARD 9-8440

Individuals Noteworthy
(Continued from page 44)

The New Provost

CHARLES H. TOWNES, one of the nation's most distinguished physicists, came to M.I.T. this fall as Provost. In this post he will share with the President the responsibility for general supervision of the Institute's educational and research programs.

"The office of Provost," President Julius A. Stratton, '23, said in announcing the appointment, "is being re-established at M.I.T. in recognition of the continuing growth and development of the Institute and of the tremendous range and variety of our interests. We are fortunate to secure a man of such exceptional scientific and administrative competence as Dr. Townes to fill this important position."

Dr. Townes has been on leave from Columbia University for the last year to serve as vice-president and director of research for the Institute for Defense Analyses, a non-profit organization operated by M.I.T. and eight other universities. He is best known for his work on the theory and application of masers.

"Maser" is an acronym for "microwave amplification by stimulated emission of radiation."

As a member of the Bell Telephone Laboratories staff from 1939 to 1947, he did extensive work on radar bombing systems and in the then emerging field of microwave spectroscopy. He became associate professor of physics at Columbia in 1948, professor in 1950, and after serving two years as executive director of the Columbia Radiation Laboratory he became chairman of the physics department there.

Sloan Teaching Interns

SEVEN men from six schools are now Sloan teaching interns in the M.I.T. School of Industrial Management. They are *Curtis H. Jones* and *Bernt P. Stigum*, from Harvard; *Arthur J. Boness, Jr.*, University of Chicago; *Ernest A. Lowe*, University of Leeds; *James B. Ludke*, University of Massachusetts; *Donald E. Porter*, San Francisco State College; and *Richard D. Terrell*, Oxford University.

(Concluded on page 48)



SUBJECT: PERSONAL SERVICE



FLETCHER CHAMBERLIN AND OLNEY MORRILL TALK ABOUT PERSON-TO-PERSON SERVICE AND WHAT IT MEANS FOR THE CUSTOMERS OF THE NEW ENGLAND MERCHANTS NATIONAL BANK

(Mr. Morrill is a Senior Vice President and Mr. Chamberlin is a Vice President of the newly formed New England Merchants.)

MORRILL: You know, I've been in banking a long time, but I'll never lose the satisfaction I get when someone says: "Will you help me with my banking problems?"

CHAMBERLIN: Well, that's the kind of question that leads to the person-to-person service we emphasize.

MORRILL: Right. And we welcome the responsibility which goes along with it.

CHAMBERLIN: That's exactly the way I think of it, because we always took this responsibility very seriously at The New England Trust before our consolidation, the same way you did.

MORRILL: One thing: it isn't a general or group responsibility either—but a *personal* responsibility for each customer and his needs. Not always an easy job, but it is a vital one.

CHAMBERLIN: And a sense of responsibility like this seems

to translate itself naturally into the person-to-person service the new New England Merchants offers every customer . . .

MORRILL: Whether his business is in our commercial or trust department or anywhere else in our Bank.

CHAMBERLIN: When you come right down to it, the basis for our personal service is really very simple. We try to put ourselves in our customers' shoes—that way, we gain a better insight into their needs.

MORRILL: And that's how we arrived at many of our services: having banking windows open ten hours a day, a new motor bank, an investment plan for those with \$5,000 or more to invest—just to name a few.

CHAMBERLIN: Sounds like a pretty good bank to do business with, doesn't it?

NEW ENGLAND MERCHANTS NATIONAL BANK
28 State Street, Boston

MEMBER F.D.I.C.

Individuals Noteworthy (Concluded from page 46)

New Posts

NAMED in the news recently were the Alumni whose elections, promotions, and appointments follow:

William C. Foster, '18, as first Director, U.S. Arms Control and Disarmament Agency;

Joel Y. Lund, '23, as President for another term, Proprietary Association, Washington, D.C. . . . *John F. Hennessey*, '24, as a member, Board of Education, New York City . . . *Edward R. Huckman*, '26, as General Sales Manager, The Foxboro Company, Ltd.;

John R. Kimberley, '26, as a Director, Corning Glass Works . . . *Nathan Cohn*, '27, as President-elect-Secretary, Instrument Society of America . . . *William J. Kirk*, '28, as a Trustee of the New York, New Haven & Hartford Railroad;

Sears L. Hallett, '29, as publisher, *Practical Builder* magazine . . . *Gordon S. Brown*, '31, as a Director, United-Carr Fastener Corporation . . . *Charles B. McCoy*, '32, as a Vice-president, Director, and member of the Executive Commit-

tee, E. I. du Pont de Nemours and company;

Cole A. Allen, '33, as Vice-president, American Mutual Liability Insurance Company . . . *H. Gordon Scowcroft*, '35, as Marketing Vice-president, Special Products Division, Lever Brothers Company . . . *Norman A. Matthews*, '37, as Group Leader, Ferrous Metallurgy, Research Laboratory, International Nickel Company, Inc.;

Dale F. Morgan, '38, as Manager-Sales Administration, Union Carbide Olefins Company . . . *Charles V. F. DeMailly*, '40, as Vice-president, Plymouth Cordage Company . . . *Richard O. Spalding*, '40, as Manager, General Service and Transportation, Glass Container Division, Owens-Illinois;

Herman A. Affel, Jr., '41, as Vice-president, Auerbach Electronics Corporation, Philadelphia, Pa. . . . *Rogers B. Finch*, '41, as Director, University Relations, U. S. Peace Corps . . . *Raymond F. Koch*, '41, as Vice-president-Secretary, Comptometer Corporation;

Stanley M. Smolensky, '41, as General Manager, National Electronics Division, Thiokol Chemical

Corporation . . . *Jack R. Williams*, '42, as Vice-president—European Operations, Worthington Corporation . . . *Thomas M. Bennett*, '43, as Administrative Manager, Engineering Development Center, The Lummus Company;

Robert J. Reilly, '44, as Vice-president, Atlas Chemical Industries, Inc. . . . *David R. Clare*, '45, as Vice-president, Manufacturing, Johnson & Johnson . . . *Arthur Y. Taylor*, '46, as Executive Vice-president, Jackson & Moreland, Inc.;

Stephen W. Moulton, '47, as Associate Director of Research, Philco Corporation . . . *Robert L. Deming*, '48, as Manager, Engineering and Development, Tracerlab Reactor Monitoring Center, Richmond, Calif. . . . *William J. Weisz*, '48, as Vice-president, Communications Division, Motorola Inc.;

Charles W. Pike, '49, as Vice-president, Operations, Merck Sharp & Dohme . . . *Maurice L. Torti, Jr.*, '53, as Director, Metallurgical Research, Metals Division, National Research Corporation . . . *Harrison T. Price*, '55, as Manager, Manual Transmission Plant, Chevrolet Motor Division, Saginaw, Mich.



NARRAGANSETT CAPITAL CORPORATION

TEN DORRANCE STREET, PROVIDENCE 3, RHODE ISLAND

Serving Research Based Small Business

- *As Financial Consultants*
- *As a Technically Knowledgeable Capital Resource*

A. H. Hartman '41, Vice President

A Federal Licensee Under the Small Business Investment Act of 1958

**MOST VITAL TO
DEPENDABLE SONAR IS...**

HIGH TRANSDUCER RELIABILITY



30 years of experience in the design and production of electroacoustic transducers with proven reliability for continuous underwater operation.

LONG EXPERIENCE in the use of all types of transducer materials . . . PIEZOELECTRIC CRYSTALS, POLARIZED CERAMICS, MAGNETOSTRICTION, ELECTROMAGNETIC and ELECTRODYNAMIC SYSTEMS . . . permits impartial analysis to achieve the best operational functions for each application.

SPECIALIZED FACILITIES for the development and production of sonar transducers, are complemented by a staff of more than 200 engineering and production personnel operating in a completely equipped modern 60,000 sq. ft. plant.

*A few openings are available for qualified electroacoustic engineers.
Send outline of experience to the attention of Mr. Frank Massa
An equal opportunity employer.*

Frank Massa
President
BSEE '27, MS '28

Ernest A. Massa
Exec. Vice Pres.
BS Physics '34

A. C. DeNapoli
Vice Pres.
BSEE '27

John J. Flynn
Govt. Contracts Mgr.
BSME '49

MASSA DIVISION **COHU ELECTRONICS, INC., HINGHAM, MASS.**

take a GIANT step

We have taken a giant step through the combining of Chance Vought Corporation and Ling-Temco Electronics to form Ling-Temco-Vought, a highly diversified industrial complex. Vought's Aeronautics and Astronautics divisions are expanding rapidly with major military, NASA and commercial programs.

Aeronautics is specializing in military and commercial products for the atmosphere. These include missile, aircraft, environmental escape systems, and other high performance weapons systems such as the recently awarded VTOL program.

Astronautics projects include booster systems and manned/unmanned space vehicles plus extensive activities in broad fields of research and development. Engineers and scientists who qualify will be given key responsibilities in these fields . . .

- **propulsion and other power systems**
- **reliability and maintainability**
- **aerodynamic flying qualities**
- **instrumentation**
- **dynamics**
- **analog and digital programming**
- **electronic systems**
- **space technology**
- **materials development**
- **stress analysis**
- **conceptual and product design**
- **test and operations**
- **structures components testing**
- **aerodynamic performance or configuration analysis**

These new career positions call for a great deal of personal contribution and growth potential. We are particularly interested in professional people who are recognized now for their work in one of these areas.

**You are invited to send
your resume to:**

PROFESSIONAL PLACEMENT



CHANCE VOUGHT
CORPORATION

a subsidiary of LING-TEMCO-VOUGHT, INC.
P. O. BOX 5907 • DALLAS 22, TEXAS

ALL QUALIFIED APPLICANTS WILL BE CONSIDERED WITHOUT REGARD TO RACE, CREED, COLOR OR NATIONAL ORIGIN

Trend of Affairs

(Continued from page 22)

Solar Heating Proves Costly

PROFESSOR ALBERT G. H. DIETZ, '32, reported conclusions reached in M.I.T.'s fourth solar house experiment at a recent United Nations Conference on New (nonnuclear) Energy Sources in Rome.

This was a three-bedroom home in Lexington, Mass., occupied for three years by Claremont D. Engebretson, a research associate in Mechanical Engineering, and his family. Solar energy was trapped in a 16-by-40-foot collector made of two layers of glass over an aluminum sheet painted black. Water pumped through copper tubes attached to this sheet was heated and stored.

Sunshine hitting this collector, it was found, could provide two-thirds of the energy required to heat the house and provide a hot water supply for the family. More storage space would have been required for total solar heating and at present, it was concluded, the cost of mechanical equipment would be higher than fuel savings would justify.

Professor Dietz said the engineering knowledge gained in constructing and operating a complex solar heating plant was the most valuable result of this experiment. "In countries where conventional fuels are abundant," he observed, "the use of solar energy for heating is economically attractive only where the climate permits an unusually high yield of sunshine per square foot."

Solar energy research at M.I.T. has been financed for several years by a grant from Godfrey L. Cabot, '81. The researchers planned to convert the Lexington house into a conventional home and sell it this fall, but to continue other projects.

The Titan's Guidance

LIKE the THOR and the POLARIS, the Air Force intercontinental ballistic missile, TITAN II, has an automatic guidance system from M.I.T. The Instrumentation Laboratory, headed by Professor Charles S. Draper, '26, designed and tested the stable inertial platform at the heart of its system, and many Alumni had a hand in the work.

Among them were Roger B. Woodbury, '48, Elmer J. Frey, '49, John E. Kirk, '49, William G. Denhard, '42, Michele S. Sapuppo, '52, Edward J. Hall, '57, Philip N. Bowditch, '46, Philip J. Gilinson, Jr., '36, Richard H. Frazier, '23, David C. Whipple, '48, George A. Oberbeck, '48, Richard E. Marshall, '51, Milton B. Trageser, '51, and Kenneth Fertig, '50.

The Loads on the Roads

THE National Bituminous Concrete Association has awarded a \$4,500 fellowship to Edward M. Krokosky, '58, to study bituminous (or asphalt) concrete, the paving material used on black-top roads. He will seek to determine how the material recovers from deformations under different loading rates at different temperatures. Such work is expected to lead to new measurement techniques helpful to engineers called on for predictions as to how specific surfaces will stand up.

Eggers Tons, '54, Assistant Professor of Transportation Engineering, and Rodney D. Andrews, Jr., Assistant Professor of Materials, will supervise Mr. Krokosky's research.

M.I.T. Publications Acclaimed

THE M.I.T. Offices of Public Relations and Publications were highly honored this year at the national meetings of both the American College Public Relations Association and the American Alumni Council.

In competition sponsored by the former, the Institute's general public relations and development projects for the Centennial year, its general catalogue, and 1960 annual report won top honors and its development brochures received additional recognition.

The American Alumni Council, after awarding prizes to M.I.T. for special events promotion, volunteer solicitors' materials, and capital campaign appeals, added a special award to the Institute "for the over-all visual impact and the unity and fine impression of its materials," and noted that "particularly outstanding were the capital campaign pieces, employing design excellence and visual design vitality."

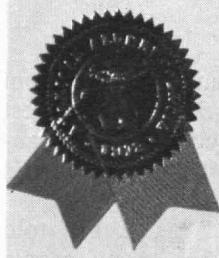
The Technology Review was honored for being outstanding among alumni magazines in its category for the quality of its featured articles.

AMERICAN ALUMNI COUNCIL

1961
General Award

For distinguished achievement in Features
the judges in the Annual Publications Competition of the
American Alumni Council award this First-Place citation to

Technology Review



J. Alfred Green
President
Struan A. Robertson
Director for Alumni Publications

Research at Round Hill

THE RESEARCH PROGRAMS of Lincoln Laboratory at the Round Hill Field Station in South Dartmouth, Mass., will be ended this year, but the M.I.T. Department of Meteorology will continue its work there. Most of the Lincoln personnel involved have been transferred to other programs in the main laboratory in Lexington, Mass., and at other field stations.

Much of the fundamental work in ionospheric and tropospheric scatter of radio communications during the last decade was done at Round Hill, and this work has figured in world-wide military communication systems.

(Concluded on page 52)

From PHILOSOPHICAL LIBRARY

for science education —

THE TEACHING OF CHEMISTRY

By N. F. Newbury—The basic guide to the selection, planning, and practical work in high school and college chemistry courses. \$6.00

THE TEACHING OF ARITHMETIC

By F. F. Potter—Practical handbook for the teacher: includes theory, fundamentals, examples, and direct application to daily classroom work. Graphs and diagrams. \$4.75

ENGINEERING MATHEMATICS

By J. Blakey and M. Hutton—Amply covers the pure mathematics required for a degree in engineering—also provides invaluable assistance to advanced students and practicing engineers. 148 line drawings. \$10.00

THE MEASUREMENT OF ABILITIES

By Philip E. Vernon—Incisive interpretation of statistical techniques essential to mental measurement, and the application of the techniques to testing and measurement. \$7.50

INTELLIGENCE AND ATTAINMENT TESTS

By Philip E. Vernon—The comprehensive survey of individual and group objective tests currently used in English speaking countries: discussion covers the nature of intelligence, its hereditary and environmental origins, educational and vocational aspects of testing. \$7.50

for industry —

ENGINEERING MANAGEMENT

By Struan A. Robertson—An encyclopedic text designed expressly for engineers called up to managerial duties. Numerous graphs and plates. \$10.00

for your library —

(and as a fine gift)

TREASURY OF WORLD SCIENCE

Edited by Dagobert D. Runes—From Hippocrates to Sakel, Euclid to Niels Bohr, Pavlov to Raman, a philosophically oriented anthology of basic writings by the greatest scientists. Introduction by Wernher von Braun. Illus. \$15.00

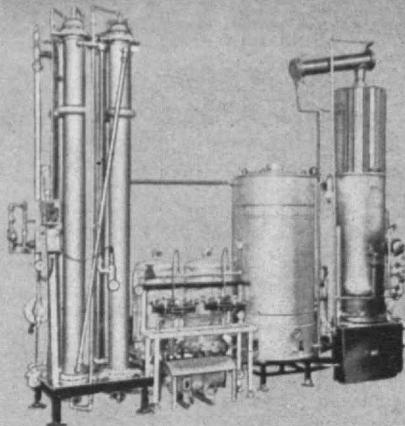
You can expedite shipment by enclosing remittance

Philosophical Library, Publishers

15 East 40th Street, New York 16, N.Y.

BARNSTEAD

ENGINEERS PURE WATER
TO YOUR SPECIFICATIONS



PHILCO CORP'S Lansdale Tube Division uses this "Train" of Barnstead Pure Water equipment in various manufacturing cycles. Operating cost is low because the greater part of the process water is repurified and fed back into the system for re-use. This "Train" includes a Barnstead 20 GPH High Purity Still, 150 gallon, heated, ultra-violet equipped tank to prevent growth of bacteria, two BD-10 Holders with special high purity Supercartridges®, an MFR® 200 Submicron Filter, and Heat Exchanger. Another example of Barnstead's versatility in lowering manufacturing costs.

A. White, '26
T. Hartwell, '28
N. A. Everett, '48
V. C. Smith, '48
S. Beran, '58

Barnstead
STILL AND STERILIZER CO.
2 Lanesville Terrace, Boston 31, Mass.

STEVENS
INCORPORATED
ARNOLD

7 ELKINS STREET
SOUTH BOSTON 27, MASS.

S/A-II-A-1/4

Trend of Affairs

(Concluded from page 51)

Atomic Naval Power

THE NAVY'S first nuclear-powered surface ship, the *U.S.S. Long Beach* (CGN-9), was completed last summer at the Bethlehem Steel Shipbuilding Company's Fore River Yard in Quincy. Captain Edgar H. Batcheller, '39 (Rear Admiral Selectee, summer 1960), has been supervisor of shipbuilding there.

The *Long Beach* is the first U.S. cruiser designed and built from the keel up since World War II. Twin nuclear reactors driving twin screws constitute her power plant, and she is the first cruiser to rely solely on guided missiles for her major offensive and defensive power.

Captain George L. Street, 3d, Professor of Naval Science at M.I.T. and prospective Commander of Submarine Squadron Five in the Pacific fleet, escorted Dean Gordon S. Brown, '31, of the School of Engineering, on a one-day cruise on the *Long Beach* in July, during which her propulsion plant and electronic installations were tested.

Atomic Industrial Power

THE Fitchburg Paper Company, of Fitchburg, Mass., is planning to obtain its steam and electric power from a nuclear reactor. "We want to be in on the pioneering of this important development," its President, George R. Wallace, 3d, explained in announcing the company's proposal to participate with the Atomic Energy Commission in a demonstration of the use of atomic power for industrial operations. George R. Wallace, '13, former President of Fitchburg Paper, is now chairman of the Board of Directors.

The company uses enormous amounts of steam for drying paper during production, and the plans call for a reactor with an output capacity of from 30,000 to 40,000 thermal kilowatts at steam pressures ranging from 15 to 200 pounds per square inch, to be ready for operation in about three and a half years.

Fertilizer for Korea

HAROLD R. SEYKOTA, '39, saw Korean engineers whom he had trained take charge of one of the world's largest urea plants this year. Built by his company, Vulcan-Cincinnati, Inc., 85 miles southwest of Seoul, it is Korea's largest chemical plant.

"Korea had to have such a plant," he recently told an interviewer, "because there are too many people there for the land to support. The people we tried to benefit realize what we did and they are our friends. The whole project made a tremendous impression. It gave the United States a very lofty reputation and is one of the reasons we are welcome there now."

Humanities Concerts

THE Juilliard String Quartet will present the complete cycle of 16 Beethoven string quartets in the M.I.T. Humanities Series this academic year. The concerts are to be given at 3:00 P.M. Sunday afternoons, November 19, December 10, January 14, February 11, and March 18, in Kresge Auditorium. Series tickets are \$8, and may be ordered by calling Ext. 2910 at M.I.T.



A little kid has lots of heroes. That mighty halfback. The cop at the corner. And the top hero of all — *Dad*.

Yet kids don't know some of the most important things their Dads do for them. Like the way a father makes sure his family will always be secure . . . able to stay in their own home, have a regular income, and money for education . . . even

if he should not be there to provide for them. Helping fathers make these plans is the job of the Massachusetts Mutual man. Thoroughly trained and experienced, he is at *your* service . . . to help you map out the security plan that's right for *your* family. Why not call your Massachusetts Mutual man today . . . or our General Agent, listed under Massachusetts Mutual in your phone book.

MASSACHUSETTS MUTUAL *Life Insurance Company*

SPRINGFIELD, MASSACHUSETTS • ORGANIZED 1851

Some of the Eastern Group alumni in Massachusetts Mutual service:

LAFAYETTE

David B. Adler, C.L.U., '17, Orlando
 Frederic F. Lawall, '22, New York
 David K. Aldrich, C.L.U., '38,
 Allentown
 Frank W. Hiller, '43, Home Office
 Benjamin C. Youngman, '44, Pittsburgh
 Richard A. Faust, '56, Binghamton
 Aman M. Barber, Jr., '59, Wilkes-Barre

LEHIGH

Russell E. Hoaster, C.L.U., '31,
 San Antonio
 Edward Billstein, Jr., '40, Atlanta
 R. Lester Dodson, Jr., '44, New York

M. I. T.

Lyman L. Tremain, C.L.U., '23,
 New York
 Harold Goodheim, '39, San Francisco
 Harold G. Ingraham, Jr., '49,
 Home Office

Missile Makers' Instrument

(Concluded from page 29)

red cells that carry oxygen to the body tissues and carry away carbon dioxide. The red cells are doughnut-shaped, and the exchange gases are concentrated in their circular outer rings. As these cells pass through capillaries, they line up like stacks of doughnuts. The gases are thus concentrated near the capillary wall through which they must pass to reach the tissues. But why this alignment occurs has not been clear.

The M.I.T. and Harvard investigators believe the non-Newtonian character of plasma may explain it. Plasma between the cell and the capillary wall, they think, may be subjected to a fast flow rate and its viscosity may be low. Hence, this thin plasma may serve as a lubricant to help stacks of cells move through the vessel smoothly and quickly.

Plasma trapped between the membranes that cover the centers of the doughnut-shaped cells, meanwhile, would be almost stationary, and its viscosity would be high. Studies with the Polaris-born instrument indicate, in fact, that it may be

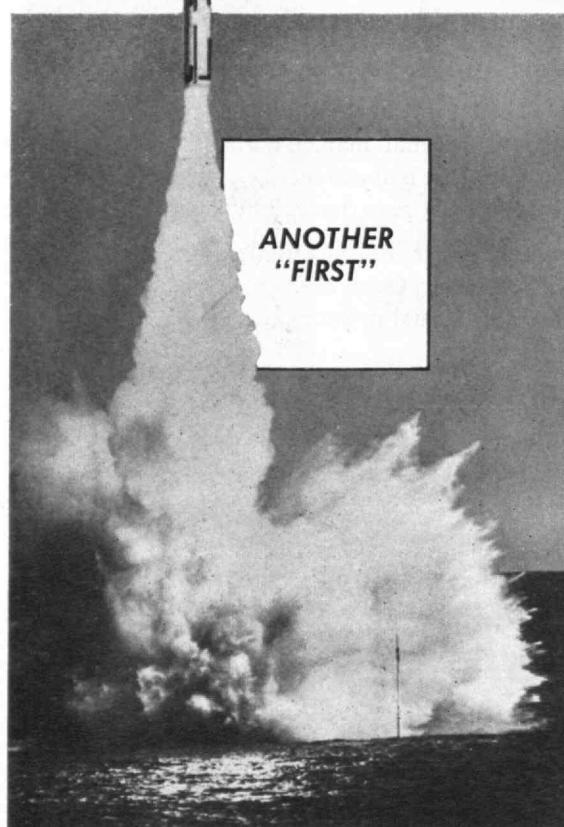


M.I.T. MEN WON the national dinghy championship this year for the 11th time in 25 years. Here with the trophies are, left to right (in back), Robert M. Gray, '64, Meyer D. Lifschitz, '63, Kenneth A. Klare, '63, Warren H. McCandless, '62, (in front) Donald E. Nelsen, '61, and Peter R. Gray, '61.

so high that the plasma almost becomes a gel and thus serves to cement the cells into their stacklike alignment for the trip through a capillary.

Drs. Merrill and Wells have found, too, that anticoagulant drugs tend to make plasma more nearly Newtonian, that is, to make its viscosity less dependent on flow rate.

SPECIAL UNDERWATER CABLES



Watertight Coaxial Cables for Polaris

Now available! Coaxial cables which maintain hydrostatic integrity at pressures 500 and 1,000 PSI. Recent applications met the specialized demands of the Polaris missile firing submarines. The antenna mast system required coaxials* with the ability to withstand 500 PSI on the exposed end without leakage. In addition, they must remain watertight following subjection to an "S" bend at -54°C . BIW bonded polyethylene dielectric to the conductors and compound blocked the shielding braid. Care was taken to avoid altering the cable attenuation at prescribed frequencies. Rugged neoprene jackets were extruded by special techniques which controlled the O.D. and assured a tight fitting cable in the stuffing glands. Flexible armored versions are available.

*RG-293/U and RG-294/U

Watertight Multiconductor Cables

BIW is making "SW Type" multiconductor cables which will not leak under pressures of 500 and 1,000 PSI on the exposed end of the cable. Used for missile and control cables they are reliable beyond Navy tentative specifications. These are 1 SWA, 2 SWA, 3 SWA, 2 SWU and 3 U. All butyl insulated conductors with no leakage at 1,000 PSI are used for Polaris and other submarine applications. Typical of this type is a modified version of MWF-24.

We will be glad to send information and reports on the performance of all these cables.

BOSTON INSULATED WIRE AND CABLE CO.
80 BAY STREET BOSTON 25, MASS.

What if something happens to Mr. Mac?

Mr. Mac is any of those key men who are so important in most businesses. His loss would mean serious and immediate problems for management. Many of these problems can be solved by key man life insurance with the following benefits:

- Provides cash to attract and train replacements, and to indemnify for temporary loss of company earning power.
- Provides cash to protect credit and endorsers of company's paper.
- Provides cash to guarantee continuance of dividends, to guarantee continuance of business and avoid dissolution, merger or forced sale.
- Provides cash to retire any stock held by the deceased, and to continue his salary to his family.
- This cash is free from federal income tax.

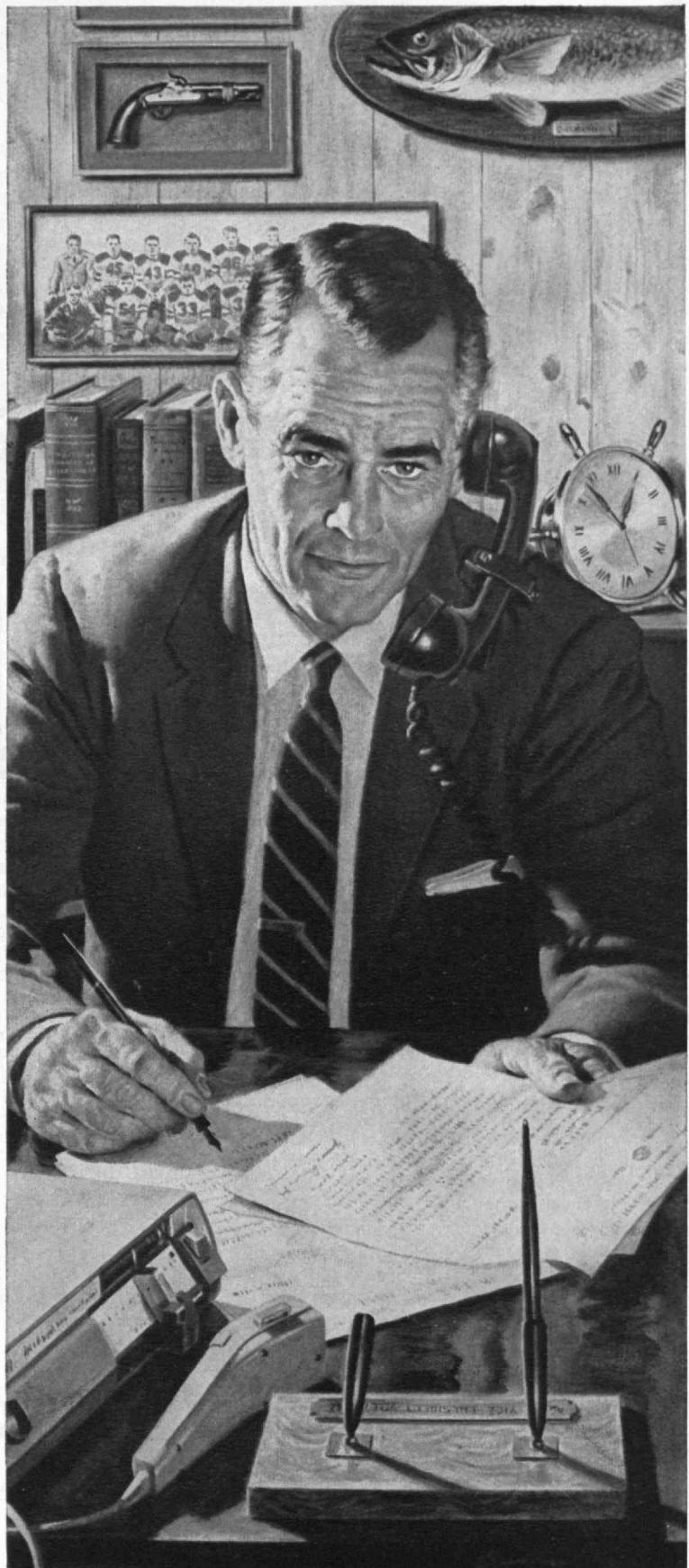
Ask a Connecticut Mutual Life man to talk to you about how key man life insurance can fit your situation. He'll recommend a plan with guaranteed flexibility... one that can be changed as your business picture changes. Talk with him soon, while your Mr. Mac is on the job.

Dividends* paid to policyholders for 115 years

Owned by its policyholders, CML provides high quality life insurance at low cost and gives personal service through more than 300 offices in the United States.

*Dividend scale for 1961 increased 12½% over 1960.

Connecticut Mutual Life
INSURANCE COMPANY • HARTFORD.



Khrushchev's Ticket

(Concluded from page 37)

viduals in elected offices may invigorate the Party leadership, and lessen the need to employ the violent techniques by which this was attained in the past, a significant exception adequately provides for the continuation of Khrushchev's own tenure—re-election by a three-fourths majority (of the Central Committee) in a secret ballot. In a system where many weeks of press discussion has not produced a single word of meaningful dissent to the draft program, the Party leader is obviously not yet prepared to redeem Lenin's 1919 pledge that the restrictions on political freedom would be lifted in a period of peace and plenty.

How Do Russians Feel?

It is, of course, impossible to measure the sincerity of the response of the Soviet people to the Party program as it is being presented in the rigidly controlled propaganda media. Certainly their feelings may be expected to run the gamut from apathy and cynicism among the older generation to ardor and zeal among the younger. In a recent Soviet novel, appropriately entitled *A Ticket to the Stars*, a young man speaks of the Party leaders and their promises in a manner which might well express the sentiments of the majority of those being led to collective happiness and plenty:

... I've had enough of those high flown phrases. They are used by many splendid idealists like you, but also by many villains. I am certain that Beria used them when he deceived the Party. Now we have learned better and they have become so much tinsel. Let's do without this hot air. I love my country, and our social order and will give my arm, my leg, or my life for them—but I am responsible only to my own conscience and not to some kind of verbal fetishes. They only stop you from seeing life realistically.

This young generation, the intended beneficiaries of Khrushchev's economic promises may, indeed, in a way still unforeseen, eventually complete the unwritten political section of his communist manifesto.

An Invitation to •••

PHYSICISTS
MATHEMATICIANS
AND ENGINEERS

from — M. I. T.



The Laboratory's staff of over 1000 under the direction of Dr. C. Stark Draper is engaged in the conception and perfection of completely automatic control systems for the flight and guidance of missiles and space vehicles. Its achievements include the Navy Mark 14 Gunsight, the Air Force A-1 Gunsight, Hermetic Integrating Gyros (HIG), and the Ship Inertial Navigation System (SINS). The Laboratory developed basic theory, components and systems for the Air Force THOR and, later, the TITAN missile. Other accomplishments include the Navy's POLARIS Guidance System.

Recently, the Instrumentation Laboratory was selected by NASA to develop the guidance navigation system for the moon space craft project, APOLLO.

Research and Development opportunities exist in:

- ANALYSIS OF SYSTEMS AND COMPONENTS
- HIGH PERFORMANCE SERVOMECHANISMS
- POWER SUPPLIES AND MAGNETIC AMPLIFIERS
- DIGITAL AND ANALOG COMPUTERS
- ELECTRO-MECHANICAL COMPONENTS
- TRANSISTOR CIRCUITRY AND PULSE CIRCUITRY
- RESEARCH, DESIGN AND EVALUATION OF GYROSCOPE INSTRUMENTS
- COMPUTER PROGRAMMING AND SIMULATOR STUDIES
- OPTICS, ASTRONAUTICS AND MANY OTHER AREAS

CALL OR WRITE HOWARD F. MILLER, PERSONNEL OFFICER

INSTRUMENTATION LABORATORY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
68 ALBANY STREET Bldg. 11R • CAMBRIDGE 39, MASS.
UNIVERSITY 4-6900, EXT. 3544

- Graduate courses may be taken while earning full pay.

"An equal opportunity employer"

“CHARGED PARTICLES”

Accelerators on the Research Frontier

We keep rewriting copy on this theme, and properly so. The needs of science for charged particles in nuclear structure research continue to create dynamic interest in Van de Graaff and microwave linear accelerators, and intensive development is leading to performance in energy and current that could not be considered even a short while ago. All the uses for higher energy, greater intensity, and more exacting specifications of stability and pulsing are not clearly known, but consideration of attainable accelerator performance may stimulate action on research programs lying dormant for lack of appropriate apparatus. The advanced characteristics here outlined can be contemplated now, due to recent technical advances in the design of accelerator components.

Energy

The capability of the Tandem Van de Graaff to reach into the range well above 20 Mev with precisely stabilized positive ions is a reality. Currents will be more than adequate for useful nuclear structure research.

New linacs of proven design extend high pulsed currents of electron beams to hundreds of Mev. They open up great areas of neutron physics and monoenergetic gamma work for physicists. The high power capabilities are now matched by

sophisticated analyzing, deflecting and collimating systems which are as important to experimental work as the linacs themselves.

Intensity

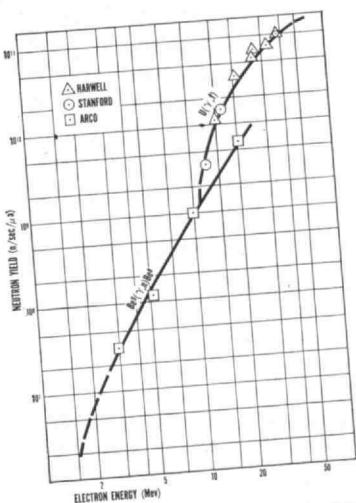
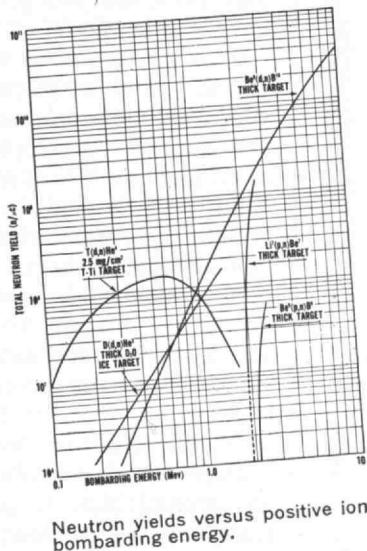
Electron or ion-beam currents in the one-ampere range at a few Mev can now be considered seriously. A specially-designed accelerator has shown excellent life performance at 1 Mev and 20 milliamperes of electrons as part of High Voltage Engineering's continuing test program to reduce the cost of ionizing radiation energy at high power levels.

The X-ray and neutron outputs from these beams are indeed heroic: X-rays — millions of rads per minute at a few centimeters distance. Neutrons — 10^{15} neutrons per second from a “point” source.

Pulsing

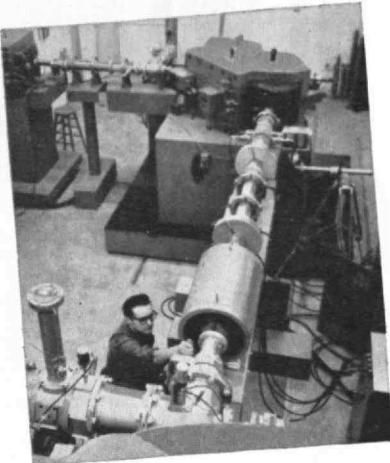
New techniques enable Van de Graaffs to be pulsed from a few nanoseconds to a millisecond. Instantaneous intensities as described above make feasible the consideration of hundreds of rads per pulse, or more than 10^{11} neutrons per burst.

High-energy linacs, now being supplied to physics laboratories, provide intense neutron pulses for time-of-flight studies. Typical of these machines are several built under AEC sponsorship, which yield as high as



Photodisintegration neutron yields from X-rays produced in electron bombardment of large-atomic-number targets.

10^{17} fast neutrons per pulse at a rate of 1.5×10^{14} fast neutrons per second. The thermal neutron flux attainable with these machines is 10^{12} n/sec/cm².



High-energy end of 12-Mev Tandem Van de Graaff Accelerator.

Photo courtesy University of Wisconsin

Energy Stability

It is now possible to consider stabilizing systems to a limit imposed primarily by the thermal motion of nuclear targets. With little effort, continuous particle-energy stabilities of a few tens of electron-volts can be provided.

Among the research fields in which these particle-accelerator characteristics may make a considerable contribution are: nuclear physics, biology, solid state, radiation damage, plasma physics, ignition of thermonuclear systems, and space-environment studies.

Physicists and radiation chemists at High Voltage Engineering are prepared to explore on an individual basis, long-range and immediate research problems that could utilize our accelerator systems.

This is part of a series of which reprints are available on request to: Technical Sales Department.

HIGH VOLTAGE ENGINEERING CORPORATION
BURLINGTON, MASSACHUSETTS, U.S.A.

APPLIED RADIATION CORPORATION
HIGH VOLTAGE ENGINEERING (EUROPA) N.V.



PRECISE!

NEW!



COMPACT!

CONSTANT VOLTAGE SUPPLY FOR INDUSTRIAL POTENTIOMETERS...by WEST

Ends need for standard cells, standardizing mechanisms, batteries and associated components

With a West constant voltage supply, you avoid all the problems of manual or automatic standardizing in industrial potentiometers.

This new unit can be used in conjunction with any brand of potentiometer requiring 6 M.A. or less measuring circuit current at nominal 1.029 V.D.C. It operates directly from line voltage input of 100 to 135 V.A.C., 50/60 cycles, and provides extremely precise regulation with highly accurate temperature compensation. It can also be used for a bridge circuit power supply with slight degrading of voltage regulation.

You'll find West's constant voltage supply exceptionally compact...only 2 1/2" x 2 1/2" x 4 1/2". For full information, write for Bulletin CVS

WEST *Instrument*
CORPORATION

SUBSIDIARY OF **Gi** GULTON INDUSTRIES, INC.

SALES OFFICES IN WORLD'S PRINCIPAL CITIES

4353C WEST MONTROSE AVENUE, CHICAGO 41

Represented in Canada by Davis Automatic Controls, Ltd.

Getting into College (Concluded from page 24)

ther learning by your answers to his questions. Learning becomes even more fun when it is shared by all members of the family.

The child who is a natural reader presents no great problems. If your family includes a nonreader you have a special problem, but one which can sometimes be solved by introducing him to books which feed his natural interests. A librarian will help you select books which deal with baseball, with the mechanical world, with birds or animals, and, later on, books on electronics, chemistry, music, or art. Once your child has learned the fun of reading in the field of his special interest, there is a chance that he can be led into an exploration of other fields.

No College Is "Best"

You may wonder at this point why I have said nothing about marks and test scores. The omission of these two tyrannies is intentional. When learning is in its rightful place, marks and test scores follow learning. Today so much emphasis is placed on the difficulty of winning admission to college and on the importance of tests and marks that all too often marks and tests have become the goals of learning rather than the by-products. When marks and test scores are made the primary target of learning, real learning is lost.

The school report cards give you an opportunity to place marks in proper perspective. Instead of asking "What did you get?" try "What have you learned?"

It is up to you to de-emphasize the marks and test scores and to help your child focus on reading, writing, and learning. An approach like this as preparation for college helps your child to understand that learning is something he does where he is and that all about him are people and books which will help him later. Under such a program your child will see that his understanding of the world does not depend on whether he is in Boston, or in San Francisco, or in Yankton, but on how much advantage he takes of the opportunities around him. If your child is reared in this manner, neither he nor you will worry about whether he gets into Harprince, Dartyale or Calford, but only that he gets to a college where he can talk to teach-

ers, where he can read books, where he can work in the laboratory.

And now you may want to say, "Yes, but he may not get into a good college. He may not get into the best college. He may not get into my college." Actually, no one knows what a good college is. No one knows which colleges are best. Harvard does have more graduates in *Who's Who* than any other institution, but considering the human material that has poured into Cambridge, Mass., from all over the world for centuries, why doesn't Harvard have twice as many graduates in *Who's Who* as it does? Harvard could be doing a very poor job educationally and yet seem to be the top educational institution because of the intellectual drive and ability of the students who go there.

The head of the Department of Religion at Yale University is not a Yale man. He came from Dakota Wesleyan. The head of all health services at Harvard is not a Harvard man. He came from the University of West Virginia. The former president of Princeton was not a Princeton man, but a graduate of Grove City College in Pennsylvania. The misery and torture of today's college admission comes because parents have taught their children to think that learning is a matter of geography; that learning can take place only in certain institutions.

The wise parent who has created in his child a desire to learn will approach the whole problem of college admission with one philosophy: "Go where you can get in, my son, and know that a great opportunity awaits you to discover more about people, more about ideas, more about things—more knowledge than you will ever master in the four years you are in college."

When this approach to college admission is taken by an entire family there can be no heartbreak letters in the mail, no crushed egos, nothing but delight at any letter that brings news of acceptance, news of an adventure in learning ahead.

Organists at Kresge

RECITALS IN the Kresge Auditorium at M.I.T. will be given December 6 by Piet Kee, February 14 by Donald McDonald, and April 11 by Heinrich Fleischer. The concerts will begin at 8:30, and single tickets will be \$2.

ENGINEERS METALLURGISTS PHYSICISTS



Transitron's growth — Transitron's accomplishments in the electronic industry — are now known throughout the entire nation and Europe.

New plants have been needed to accommodate Transitron's rapid growth. New people — experienced engineers, metallurgists, physicists — are now needed by Transitron. And recent graduates who want a solid future in electronics within a strong, expanding firm, will find just that at Transitron.

Whatever your future plans are — whether you're experienced or inexperienced — Transitron invites you to contact the Director of Technical Placement for a confidential discussion about your future at Transitron.

Transitron

electronic corporation

Albion Street, Wakefield, Mass., 245-4500
Wakefield-Boston-Melrose, Massachusetts

SALES OFFICES IN PRINCIPAL CITIES THROUGHOUT THE U.S.A. AND EUROPE.

Books

(Continued from page 34)

1400 GOVERNMENTS, by Robert C. Wood, Associate Professor of Political Science at M.I.T.; Harvard University Press (\$5.75). Reviewed by Harold S. Osborne, '08, of Upper Montclair, N.J.

THIS AUTHORITATIVE and readable book is the last to appear of a series of nine reporting a study made for the Regional Plan Association by the Graduate School of Public Administration of Harvard University dealing with the New Jersey-New York-Connecticut metropolitan area centering upon New York City. The purpose of the study is to identify and to analyze the forces which determine the future development of the region and to project for 25 years ahead the effect of continuation of the operation of these forces. This volume discusses the part played in the development of the region of the numerous governmental entities.

The author concludes that the governments of the region have relatively little influence in determining the pattern of growth and of distribution of population and of economic activity. To be sure, the governments perform many important and necessary functions. They tend, however, to follow rather than to direct the development.

The local governments are so numerous, so diverse and competing, and so limited in jurisdiction that their effects on shaping the region's development tend to cancel out. "The development of hundreds of separate policies in various combinations, among hundreds of jurisdictions, engenders a spirit of contentiousness and competition."

The greatest departure from this takes place in what the author calls the metropolitan giants. By this term he characterizes such agencies as the Port of New York Authority and the Tri-Borough Bridge and Tunnel Authority, which are given responsibilities in a restricted field but cover wide regional or subregional geographical areas. These agencies make important contributions to regional development but tend to support the market place and to underwrite and to accelerate the diffusion of people and of jobs.

In view of the growing complexity and diffusion of the provision of government services throughout this great region with the tremendous fragmentation of governmental responsibilities, the author inquires whether

a revolution in governmental organization is impending. A major argument for such a revolution is that the local governments as now organized will find it increasingly difficult and ultimately impossible to provide for the widening demand for services under the limitations of the present tax system.

The author finds that these arguments are not convincing. To be sure, local governments are showing and may be expected to continue to show an increasing interest in regional problems and increasing co-operation in the attempt to do something about them. As for a revolution in governmental organization, however, the author states that the reformers suggest "the establishment of institutions which will insure the region's op-

(Continued on page 62)



RUGGED WIRING DEVICES,

precision machine screws
and fasteners

HARVEY HUBBELL, INC.

Bridgeport, Connecticut

G. R. WEPPLER '37

JOHN A. VOLPE CONSTRUCTION CO., INC.

Builders

Malden, Massachusetts

Washington, D.C.

Miami, Florida

JOHN A. VOLPE

FRANK MARCUCELLA '27

S. PETER VOLPE

ROOM TO THINK...

Working at MITRE gives you the opportunity to investigate new scientific areas, and, at the same time, to become identified with projects of the utmost national urgency. The effort involves a wide range of computer-based command and control systems. You will face important and challenging problems . . . and be free to pursue them on your own. Your colleagues will be men of considerable professional stature who work in an atmosphere of intellectual freedom. This is a job for the highly talented scientist or engineer — the man with imagination, common sense, and a feel for systems. If you qualify, and if you are prepared to accept the challenge of command and control systems, MITRE needs you now. Write, in confidence, to Vice President — Technical Operations. The MITRE Corporation. Post Office Box 208, Dept. MY-7, Bedford, Massachusetts.

Ranking members of MITRE's technical staff will be conducting interviews during Nov. and Dec. in the following cities:
SAN FRANCISCO — Nov. 9, 10, 11 • SEATTLE — Nov. 13, 14, 15 • EULESS, TEXAS — Nov. 16, 17, 18 • WASHINGTON, D.C. — Dec. 4, 5, 6, 7.

Appointments are now being made in the following areas:

- Operations Research
- System Analysis
- Communications
- Econometrics
- Economics
- Computer Technology
- Human Factors
- Advanced System Design
- Mathematics
- Radar Systems and Techniques
- Air Traffic Control System Development
- Antenna Design — Microwave Components

Formed under the sponsorship of the Massachusetts Institute of Technology and now serving as Technical Advisor to the United States Air Force Electronic Systems Division.

An equal opportunity employer

THE **MITRE**
CORPORATION

FLETCHER **g**ranite

rstanda **d**ized curb

a dimension masonry

n broke **a**shlar

i bridge p **er** facing

t bound pos **is**

e thin v **neers**

Quick Delivery

H. E. FLETCHER CO.

WEST CHELMSFORD, MASSACHUSETTS
 LOWELL—ALPINE 1-4031
 114 EAST 40TH STREET, NEW YORK 16, N. Y.
 OXFORD 7-4131

Books

(Continued from page 60)

timum development and maximize the usefulness of the region's human and material resources." As to this, he has the following to say:

Yet the plain fact is, of course, that few inhabitants of the Region, or of the nation for that matter, have ever looked to their local governments to optimize or maximize anything. On the contrary, people have regarded these units as necessary but not especially admirable service units to provide programs which did not seem supportable through private enterprise. It has never been in the Region's tradition to charge local government with the responsibility for physical and economic development. The price mechanism and the market place are our chosen instruments for those purposes.

PARALLEL SKIING FOR WEEKEND SKIERS, by Robert C. Sprague, '23; Sprague Electric Company, North Adams, Mass. Reviewed by Don Guy, skier, photographer, and Associated Press science writer.

SKIERS, scientific or otherwise, who think that the only figures involved in their sport are cute little numbers in pink stretch pants will get a surprise from this slim but solid little volume. Written by the chairman of the board of the Sprague Electric Company, the book deals with the mathematics of skiing.

We anticipate seeing faculty mathematicians putting the book to the ultimate test with the first snowfall this winter. We visualize them schussing the slopes, volume in hand, as they check out the formula for turning:

$$F_1 = \pm K_t W_s \frac{d}{12} \sin A \cdot (\sin C \pm f \sin C')$$

(F_1 is the turning moment in foot pounds, K_t a constant depending on particular skis versus sliding friction with snow, W_s is weight of skier and A is angle of slope to horizontal, C is angle between longitudinal axis of the ski and fall line, $f = \frac{K_d}{\tan A}$, K_d is coefficient of friction of the skid.) The rest of us who have enough trouble getting downhill intact without worrying about the mathematics of our descent will learn a lot from Mr. Sprague's observations on parallel skiing.

The book includes a supplement based on Mr. Sprague's experience in teaching his daughter-in-law to ski at Bromley, Vt. The writer parts company with the traditional stem turn for beginners that has been the salvation and curse of skiers ever since it was imported from Europe. Some ski schools avoid stems or snowplow turns entirely. Others say it is a necessary evil to be outgrown as soon as possible. Mr. Sprague started his daughter-in-law off with parallel skiing the first day, having her step around with each traverse of a gentle slope. To this, many of us, remembering spills as we tripped over our own stem turns, will surely say amen.

(Book news is concluded on page 64)

M.I.T.'S SCIENCE REPORTER on educational TV now is Dr. Elbert P. Little, former Executive Director of the Physical Science Study Committee. Boston's WGBH telecasts his programs at 9:30 P.M. on Wednesdays; they also are telecast in other cities.

The TREDENNICK-BILLINGS CO.

Construction Managers

K. W. RICHARDS '07

H. D. BILLINGS '10

10 HIGH STREET

Building Construction

C. C. JONES '12

F. J. CONTI '34

BOSTON, MASSACHUSETTS

Cybernetics Second Edition

Norbert Wiener

A new edition of the classic study of human control functions and the mechano-electrical systems designed to replace them. With a review of the field since 1948 and two new chapters on learning, self-reproducing machines, brain waves, and self-organizing systems.

\$6.00

Sensory Communication

Edited by Walter A. Rosenblith

The proceedings of an international symposium held at M. I. T. in 1959, presenting the experimental results and theoretical discussions of 42 life scientists, physical scientists, and computer engineers, all concerned with problems of sensation and perception.

\$16.00

Industrial Dynamics

Jay W. Forrester

The first complete presentation of a new approach to the study of industrial systems, an approach that takes advantage of the digital computer and applies recently developed theories of feedback systems and decision-making processes to the study of the flows of information, money, materials, capital equipment, and manpower in a company, an industry or a national economy.

\$18.00

The M.I.T. Press

Massachusetts Institute of Technology
Cambridge 39, Massachusetts

ELECTRICAL CONTRACTORS

albert

PIPE • VALVES & FITTINGS

STEEL . . . PLASTIC . . . ALUMINUM
STAINLESS . . . WROUGHT IRON

PIPE PILING & ACCESSORIES PIPE FABRICATION

LIGHTWEIGHT SPEED-LAY® PIPE SYSTEM

S.G. ALBERT '29 • A.E. ALBERT '56

WRITE FOR FREE BROCHURE



ALBERT PIPE SUPPLY CO., INC.
101 VARICK AVE., BROOKLYN 37, N.Y.
TELEPHONE: HYACINTH 7-4900

TO THE NATION SINCE 1895

LORD

ELECTRIC COMPANY, INC.

BOSTON • • NEW YORK

PITTSBURGH • PORTLAND, ORE.

LOS ANGELES • SAN JUAN, P. R.

Books

(Concluded from page 62)

Have You Seen These?

RECENT BOOKS likely to be of especial interest to M.I.T. Alumni include:

Arms Control, Disarmament, and National Security, edited by Donald G. Brennan, '55, with the sponsorship of the American Academy of Arts and Sciences (Braziller, \$6).

The Collected Works of Irving Langmuir, with an Honorary Editorial Advisory Board including William D. Coolidge, '96, and Horace R. Byers, '32 (Pergamon Press, 12 volumes, \$150).

The Future Metropolis, edited by Professor Lloyd Rodwin of M.I.T., with contributions by Professors Gyorgy Kepes, Kevin A. Lynch, '47, Martin Meyer-son, and others (Braziller, \$5).

A History of Metallography, by Cyril Stanley Smith, '26, newly appointed Institute Professor at M.I.T. (University of Chicago Press, \$8.50).

Miniatrization, edited by H. D. Gilbert, with a concluding chapter, "There's Plenty of Room at the Bottom," by Richard P. Feynman, '39—an article that attracted great attention when published in the May, 1960, issue of *The Technology Review*—(Reinhold, \$10).

Plasmas and Controlled Fusion, by David J. Rose, '50, Professor of Nuclear Engineering, and Melville Clark, Jr., '43, Associate Professor of Nuclear Engineering (The M.I.T. Press and John Wiley & Sons, Inc., \$10.75).

MAN'S VIEW OF THE UNIVERSE, by R. A. Lyttleton; Atlantic-Little, Brown (\$3.95). Reviewed by Martin Mann, '41, Senior Editor, *Popular Science Monthly*, and author of several science books for laymen.

THIS little book is a collection of concise, encyclopedia-like chapters. You can breeze through it in an evening and collect the high points of modern knowledge of the heavenly bodies. Or you can browse for material that is new or intriguing—the chapters are independent enough to be enjoyed whether you have read the previous pages or not.

The organization is logical. Lyttleton starts with the earth, describing its structure and the way it may have been created. He then duplicates this formula as he moves out from the earth to the moon, planets, sun, comets, stars, galaxies, and entire universe.

The two chapters on comets may be the most interesting. Not many readers will realize that there are more of them than of any other celestial object in the universe (250,000 comets for every star). There is also plenty of "gee-whiz": the incomprehensible vastness of space (light, traveling six million million miles in a year, requires four and a half years to reach us from the star *nearest* to the sun), and the equally incomprehensible emptiness of space (a *dense* cloud of interstellar gas contains 1,000 hydrogen atoms per cubic centimeter, a density of 10^{-21} grams per cc.).

While brevity is to be applauded—this book is a paragon of that virtue—it does have drawbacks. Detail is severely limited. The drawings are apt and useful, the photographs beautiful but routine.

CLEAN DUSTLESS DRILLING OF HOLES IN REINFORCED CONCRETE

Without Using Water! with "WYR-LOK" BITS and CONDECO DRILLING MACHINES



"WYR-LOK"
REMOVABLE HEAD
**CARBIDE
CORE BITS**

DRILL
FASTER!
COST LESS!

You'll save up to 66% in original bit costs, more than 33% in replacement costs, and get more footage, too, with "WYR-LOK" carbide-tipped core bits. Tests prove them far more efficient than conventional diamond core bits—and YOU CAN DRILL DRY. Cutting heads are replaceable without removing bit from machine. Easy to sharpen on the job. Available in standard lengths. From 2" to 6" in diameter; larger diameters on request.

**CONDECO PORTABLE
DRILLING MACHINES**
ONE-MAN OPERATED! FOR WET OR DRY
DUSTLESS CONCRETE DRILLING!

Condeco Drilling Machines are rugged, powerful units that will easily drill through any type masonry including reinforced concrete. Designed and Engineered for use with "WYR-LOK" Bits, they will save you time and money on every drilling job.

Available in several models for horizontal or vertical drilling of holes from 2" to 14" diameter. Drilling is done dry using vacuum or wet. Easily portable to the job—they are one man operated.



BERNARD L. CHAPIN
President
Class of 1923

CONDECO

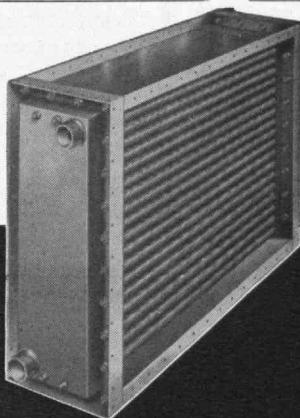
DIVISION OF NEW ENGLAND
CARBIDE TOOL COMPANY
55 Commercial Street • Medford 55, Mass.

GEARS

Designed and
Manufactured to meet
YOUR
Production Requirements

Custom Gears Exclusively

DIEFENDORF
GEAR CORPORATION
SYRACUSE 1, N. Y.



MAXIMUM
Heat-Transfer Capacity
in Limited Space

LOW AIRWAY RESISTANCE

AEROFIN Smooth-Fin
Heat Exchangers

AEROFIN CORPORATION
101 Greenway Ave., Syracuse 3, N. Y.



WHITEHEAD METALS, INC.

Distributors of Corrosion Resisting Materials:

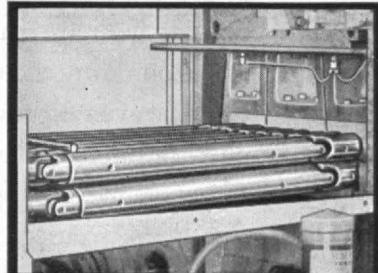
ALUMINUM
BRASS
CLAD METALS
COPPER
EVERDUR
INCONEL
MONEL
NICKEL
FERRO ALLOYS
FOUNDRY NICKEL
STAINLESS STEELS

303 West 10th St., New York 14, N. Y.

OTHER OFFICES
PHILADELPHIA • BUFFALO • SYRACUSE • CAMBRIDGE, MASS.
BALTIMORE • HARRISON, N. J. • WINDSOR, CONN. • ROCHESTER

C. D. Grover, President
MIT 1922

How Curtis
solved a close
center-to-center
problem



The close center-to-center spacing of these drive spindles on a Sutton-Maust Precision Backed-up Roller Leveler created a tough problem for its manufacturer. He needed a universal joint strong enough to stand up under heavy rolling mill conditions, yet small enough to operate at such close quarters.

The answer was a Curtis universal joint! The maximum load carrying capacity and minimum torsional deflection of the Curtis joint was found to be completely satisfactory. And Curtis' famous Telltale Lock Ring construction permits quick disassembly for easier maintenance.

This is just one of the many power transmission problems solved by Curtis universal joints—size for size the strongest universal joints designed for industry. Selected materials, precision engineering, and 40 years' experience manufacturing universal joints exclusively make them that way.

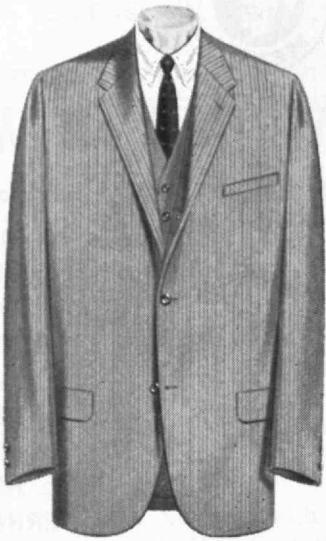


WRITE FOR THE NEW CURTIS CATALOG, JUST PUBLISHED

14 sizes always in
stock $3/8$ " to 4" O.D.

Not sold through dis-
tributors. Write direct
for free engineering
data and price list.

TRADE
UCCURTIS
MARK
UNIVERSAL JOINT CO., INC.
811 Birnie Ave., Springfield, Mass.
As near to you as your telephone



OUR "346" DEPARTMENT
Brooks Brothers quality and taste
...at generally lower prices

Our popular "346" Department offers an excellent opportunity to become acquainted with Brooks Brothers distinctive styling and quality at moderate prices. All our "346" suits, topcoats, sportwear and evening wear are made to our exacting specifications...on our own exclusive models...mostly of materials woven especially for us. The suits—made on our traditional 3-button, single-breasted model, feature our comfortable and correct natural shoulders, trousers without pleats, and matching vests...in a range of sizes from 36 to 46, including shorts, regulars, medium longs, longs...and extra longs for the tall, slender man.

Our "346" Suits, \$90 to \$105

Topcoats, from \$95 • Sport Jackets, \$65 to \$75

ESTABLISHED 1818

Brooks Brothers,
CLOTHING
Men's Furnishings, Hats & Shoes

346 MADISON AVE., COR. 44TH ST., NEW YORK 17, N. Y.

111 BROADWAY, NEW YORK 6, N. Y.

BOSTON • PITTSBURGH • CHICAGO • SAN FRANCISCO • LOS ANGELES

Feedback

(Continued from page 3)

undiscovered or novel and become reduced to tedium after an initial mastery.

One of the "most wanted" easily characterized his first position: "I was not wanted for my education. The employer came to M.I.T. seeking a tolerably high intelligence quotient accompanied by a mechanical aptitude, and imagine, I was flattered because they seemed impressed by my A's in physics. When I arrived on the job they taught me what I was supposed to do—and woe to the rest of my education." A Ph.D., now teaching (few from the class have joined him), explained "Though the salary sacrifice is considerable, teaching provides the fullest possibilities for using my education." Upon continuing, he soberly reflected that the need for the teacher is premised upon the need for what he teaches. An electrical engineer jibed, "My day is composed of arithmetic and human relations—there is no time for technology."

Despite the drawbacks, some class members, responsive to their ability, have experienced considerable technological success in industry. These successes do not utilize to any greater degree the skills of those classmates with approximately equal ability who have experienced placement difficulties. The sudden defense layoffs in 1959 initiated a wave of address changes. "Termination," as described by one '56er, "constitutes a department captain bewailing that the company does not desire your leaving while he is astutely directing you to the door. Were I an escaping genie, someone would have rushed to put the lid on the jar. The jobs are explicit. When they are over, you are over."

About 10 per cent of the class have coped with the problems of engineering by engaging in completely unrelated occupations. One classmate finds being a rancher-art gallery operator absolutely delightful.

Perhaps the M.I.T.er could be considered overly self-indulgent for imagining the presence of opportunities to generally use his education. The arts major accepts his education as "good background" and adapts himself to, or more probably demands, job training by the employer. Apparently, exposure to the uninteresting is the calculated sacrifice for future success, "the good opportunity." What should allow the engineer, unlike others, to presume that the full interesting scope of his education will be utilized? No favoritism is asked. How-

(Concluded on page 68)

"tenderized" leather . . . the secret of Bostonian Light-Brigade Brogues

Bostonian has a special way of "tenderizing" leather. Result: Light-Brigade brogues. More flexible than brogues have ever been.

Bostonian softens outer-soles in a special seasoning preparation. (Makes them

storm-resistant, too.) These soles are rolled and re-rolled until so supple you can flex one around your finger. Bostonian uses only the youngest calf leather available for the upper of the shoe. This supple leather is folded

and kneaded until it drapes like cloth.

Result: As soon as you slip into a pair of Light-Brigades you enjoy a new freedom feeling. Best of all they shrug off winter weather with the same ruggedness as old-style bulky brogues.

To give you this light-footed feeling, there's no substitute for the care and patience of a Bostonian craftsman's hands. Why not start enjoying the quality and comfort of Bostonians today?

Bostonian Light-Brigades



Burnished Bronze Calf

19.95

PATRONAGE REFUND TOO

**THE
COOP**

Feedback

(Concluded from page 66)

ever, the discrepancy between all the pronouncements indicating this country has a shortage of engineers and its misuse of available talents exposes a fundamental national misunderstanding about the operations of technology. An unsound basis exists upon which to counsel a career-conscious high school student about engineering or the sciences.

For the public commentator, as well as the dedicated educator, the challenges of the space age appear to demand the fullest application of the best educated minds. Though the myriad secrets of the unknown could exhaust all our reserves of brilliance, our present status of technical advancement does not absorb existing talents. A first sensible plea is for honest disclosure in contrast with present flamboyant engineering personnel advertisement and procurement. A true appraisal, which would reveal vast engineering dreariness, could perhaps orient our efforts in more constructive directions. Those 85 out of every 100 who abandon engineering pursuits before achieving their degree might under a modified curriculum be qualified to fulfill the plethora of positions not requiring

complete engineering credentials. Also, mass engineering tactics are deserving of review, regardless of the ultimate conclusion. In large engineering organizations, the long rows of drafting boards seem devised to provide the engineer with the personality of a potato.

Another awakening, compelling re-evaluation of being "most wanted," is the recognition that the politics of business control the quality of engineering. As one of numerous representative examples of this realization, consider the Ph.D. who quit his job upon discovering that he was being used merely as "degree flavored stuffing" to "choicen" a cost-plus defense contract. Perhaps such abuse is the way of the world; however, the recognition of this possibility does not render compromise with responsible usage of quality education more tolerable.

These observations are particularly emphatic for the engineer or scientist in the 27-year-old range represented by M.I.T. '56ers. No longer an undergraduate spectator, the fifth-year Alumnus has become an active participant in society, with related commitments and dependency. The initial fascination, accompanying exposure to how business and its mentors operate, has worn thin. Now, a sensitivity to the demands of family life, present

or prospective, and an awareness of more quickly passing years, plead for opportunities of substantial content, for the pride of usefulness and contribution.

1 Chase Manhattan Plaza
New York 5, N.Y.

Associations with M.I.T.

FROM N. BRUCE DUFFETT, '40:
When my father and mother attended his 50th reunion at M.I.T., it occurred to me that my mother, Winona S. Duffett, was "related" to M.I.T. to an extent that might be quite unusual: husband, Norman Duffett, '11; son, N. Bruce Duffett, '40; brother, Erwin G. Schoeffel, '23; nephew, David E. Schoeffel, '51; brother-in-law, John F. Ancona, '03; and cousin, Malcolm F. Schoeffel, '25.

270 Park Avenue,
New York 17, N.Y.

Support for Our Critic

FROM CARL BARUS, '48:
I just read the letter in your April, 1961, issue from Frederic Langmack, '56. I hope it has stimulated similar comment from others. For my part I agree wholeheartedly with Mr. Langmack's criticism.

8 Whittier Place,
Swarthmore, Pa.

From New York Life's yearbook of successful insurance career men!

"PEN" BUTTERFIELD— wrote his own ticket to a successful insurance career!

Without any previous business experience, W. S. "Pen" Butterfield has gone steadily to the top as a New York Life Agent. He has attained coveted membership on the President's Council of the company. Pen knows of no other career "where a man can find the freedom, potential, satisfaction, income and thrill that the job of a Nylic agent can offer. It's fun and rewarding."

He has found his own efforts and talents to be the only limitations on his income. To help achieve his goals and to serve his clients even better, Pen has earned a Chartered Life Underwriter degree for himself. Perhaps a career like Pen Butterfield's would interest you or someone you know. If so, why not write for information?

"Pen"
Butterfield,
C.L.U.
New York Life
Representative
in the Nebraska
General Office



Education: Colgate '47-'49;
Univ. of Nebraska, B.A., '50
Employment Record: Joined
New York Life '53; Member,
President's Council
(composed of 200 leaders
among over 6000 field
representatives).

New York Life
Insurance *nylic* Company

College Relations, Dept. K-26
51 Madison Avenue, New York 10, N.Y.

PROBLEMS

and business and systems and to provide a framework for continued growth and development. The board of directors, which includes members of the Beech-Nut family and prominent business leaders of the area, has been organized to assist the company in its efforts to maintain and expand its business. The company is also engaged in a variety of other activities, including the manufacture of a wide range of products, such as Beech-Nut Baby Foods, Beech-Nut Coffee, Beech-Nut Chewing Gum, Beech-Nut Cough Drops, Pine Bros. Cough Drops, Martinson Coffee, and Aborn Coffee.

Life Savers

Beech-Nut Baby Foods

Beech-Nut Coffee

Beech-Nut Chewing Gum

Beech-Nut Cough Drops

Pine Bros. Cough Drops

Martinson Coffee

Aborn Coffee

BEECH-NUT LIFE SAVERS, INC.

SYSKA & HENNESSY, INC.

Engineers

John F. Hennessy '24

John F. Hennessy, Jr. '51



DESIGN • CONSULTATION • REPORTS
MECHANICAL • ELECTRICAL • SANITARY
VERTICAL AND HORIZONTAL TRANSPORTATION
New York City

STARTING A NEW BUSINESS?

Large or small—insure it with

BREWER & LORD

40 Broad Street

Boston, Massachusetts

NORMAN STOLZ XV '49

CHAUNCY HALL SCHOOL

Founded 1828. The School that specializes in the preparation of students for the Massachusetts Institute of Technology.

Ray D. Farnsworth, *Principal*, 533 Boylston Street, Boston, Mass.

ALEXANDER KUSKO, INC.

Consulting Engineers

141 Main Street Cambridge 42, Mass.

Eliot 4-4015

Research and Development in

Magnetics

Electric Machinery

Instrumentation

A. KUSKO '44

J. A. GAUDET '56

G. V. WOODLEY '55

Transistor Circuits

Control Systems

Power Supplies

J. C. EMERSON '57

C. M. GOBHAJ '60

C. A. RAMSBOTTOM '55

William H. Coburn & Co.

INVESTMENT COUNSEL

68 Devonshire Street

Boston 9, Mass.

Institute Yesteryears

(Concluded from page 38)

than had entered with the Class of 1889 in the previous autumn.

¶ Contrasts in Class meetings were reported by *The Tech* as follows:

"The Class of '89 had a hard time at their last meeting. By diligent work and by sending out scouts to bring in those who were playing tennis, the quorum of 40 was procured. The number for the quorum was then reduced to 25, and 15 men were allowed to go out. The remainder then settled down to business, but unfortunately accomplished nothing, none of the candidates obtaining a majority sufficiently large to elect them. Finally, the meeting was adjourned in despair.

"The Class of '90 held its first meeting in Rogers 15. . . . Great expectations were made, as a rush was expected with '89, and each student was compelled to show his first-year attendance card before entering the room. He then passed through a double line of 'sluggers' of the class before reaching the seats. No rush occurred, however, and as far as the upperclassmen were concerned, the meeting was enjoyed in peace.

"An attempt was made by some of the class to introduce electioneering tactics, and a printed ticket was got out. This attempt, however, resulted only in signal failure." Temporary officers were chosen and there was appointed "a committee of five to draw up a constitution and report in two weeks, when the permanent officers would be elected."

¶ "It is very hard for a student to be unable to spend Christmas at home, and yet this is the case with a great many of us at the Institute," wrote the editor of *The Tech*. "There is a constantly increasing number of students who come from a distance to pursue their courses of study here, and it seems to us as if some provision should be made for a Christmas holiday, so that they can pass that joyous festival at home.

"This is about the only prominent educational institution in the country where no Christmas holiday is given, and there seems to be a growing dissatisfaction among the students in regard to this.

"A week given as a holiday would only put off the semi-annual examinations, and make the second term begin and end a week later, thus taking it out of the very long summer vacation. . . . It is sincerely hoped that the Faculty will consider the matter favorably, and grant the much needed recess."

PHILIP H. RHODES & ASSOCIATES

Consulting Chemists

Specializing in

Resins and polymers. Raw materials,

process and product development,

Application and Marketing.

2861 SIDNEY AVENUE CINCINNATI, OHIO

PHILIP H. RHODES '35

PROFESSIONAL CARDS

JACKSON & MORELAND, INC.

JACKSON & MORELAND INTERNATIONAL, INC.
Engineers and Consultants

ELECTRICAL-MECHANICAL-STRUCTURAL
DESIGN AND SUPERVISION OF CONSTRUCTION
FOR
UTILITY, INDUSTRIAL AND ATOMIC PROJECTS
SURVEYS-APPRAISALS-REPORTS
TECHNICAL PUBLICATIONS

BOSTON WASHINGTON NEW YORK

EADIE, FREUND & CAMPBELL

Consulting Engineers

500 FIFTH AVENUE NEW YORK 36, N. Y.
Mechanical-Electrical-Sanitary
Air Conditioning-Power-Process Layouts
James K. Campbell '11

METCALF & EDDY

Engineers

Soils, Foundations, Waterworks, Sewage Works,
Drainage, Irrigation, Flood Control, Refuse,
Industrial Wastes, Airports, Highways, Military
Projects, Industrial and Commercial Facilities.
STATLER BUILDING, BOSTON 16, MASSACHUSETTS

THE KULJIAN CORPORATION

Engineers • Consultants • Constructors

UTILITY • INDUSTRIAL • CHEMICAL

Power Plants (Steam, Hydro, Nuclear), Public
Works, Processing Plants, Oil Refineries, Tex-
tile Plants, Institutions, Highways, Expressways,
Airports & Facilities, Military Installations.

H. A. KULJIAN '19 A. H. KULJIAN '48
1200 NO. BROAD ST., PHILADELPHIA 21, PA.

LOOMIS AND LOOMIS

consulting professional engineers

STRUCTURES FOUNDATIONS

WINDSOR CONNECTICUT

FABRIC RESEARCH LABORATORIES, INC.

Research, Development, and Consultation
In the Fields of Fibrous, Organic, and Related Materials

1000 Providence Highway Dedham, Mass.
(At Route 128 and U.S. 1 Interchange)

W. J. HAMBURGER, '21 K. R. Fox, '46 E. R. KASWELL, '39

LAUREN B. HITCHCOCK ASSOCIATES

Chemical Engineers

Industrial Research & Development
Technical & Economic Evaluations
Commercial Chemical Development-Air Pollution Control
Brochure on Request

LAUREN B. HITCHCOCK '20 Technical Advisor, JOHN H. SCHAEFER '26
60 EAST 42ND STREET NEW YORK 17, N. Y.

FAY, SPOFFORD & THORNDIKE, INC.

Engineers

Airports, Bridges, Express Highways
Water Supply, Sewerage and Drainage Systems
Port and Terminal Works
Industrial Plants Incinerators

Designs Investigations
Supervision of Construction

11 Beacon Street Boston, Massachusetts

CAPITOL ENGINEERING CORPORATION

Consulting Civil Engineers

DILLSBURG, PENNSYLVANIA, U.S.A.

ROBERT E. SMITH '41, President

MAURICE A. REIDY

Consulting Engineers

BRIDGES BUILDINGS
STRUCTURAL DESIGNS FOUNDATIONS
CONSTRUCTION CONSULTANT AND ARCHITECTURAL ENGINEER

Estimates and Appraisals

101 TREMONT STREET BOSTON, MASS.

CHARLES NELSON DEBES ASSOCIATES, INC.

Engineers and Architects

Structural, Electrical, Mechanical, Acoustical
Industrial, Commercial and Municipal Projects

915 EAST STATE ST. ROCKFORD, ILL.
C. N. DEBES '35

MORAN, PROCTOR, MUESER & RUTLEDGE

Consulting Engineers

Foundations for Buildings, Bridges and Dams;
Tunnels, Bulkheads, Marine Structures, Soil Studies and
Tests; Reports, Design and Supervision

WILLIAM H. MUESER '22 PHILIP C. RUTLEDGE '33
415 Madison Ave., New York 17, N. Y.

BREWER ENGINEERING LABORATORIES

Consulting Engineers

Electric Strain Gage Testing • Stress Analysis
Structural Model Testing • Structural Testing
Strain Gage Amplifiers • Strain Gage Switches
Ground Support Mechanism Design

MARION, MASS. TEL. 103
G. A. BREWER '38 J. D. INGHAM '43

CLEVERDON, VARNEY & PIKE

Consulting Engineers

HERBERT S. CLEVERDON '10 WALDO F. PIKE '15
JOHN A. DOW '23 HAROLD E. PROCTOR '17

Structural Designs Foundations
Heating, Ventilating, Electric and Plumbing De-
signs, Industrial Buildings, Reports, Investigations

120 TREMONT STREET BOSTON 8, MASS.



and the prophet replied:

*"It is well to give when asked, but it is
better to give unasked, through understanding."* *

Gifts by Will

TO THE

Massachusetts Institute of Technology

The tale is told of Almustafa, the prophet, who, having awaited for many years the ship that would return him to the place from whence he came, was making the final descent to the shore when the folk of Orphalese crowded about him. They besought him before departing to "disclose us to ourselves, and tell us all that has been shown you of that which is between birth and death."

With words of wisdom, an answer appropriate was given to the woman holding a baby, to the ploughman, to the merchant. Begged one, "Speak to us of GIVING," and the prophet replied:

"It is well to give when asked, but it better to give unasked, through understanding;

And to the open-handed the search for one who shall receive is joy greater than giving. All you have shall some day be given;

Therefore give now, that the season of giving may be yours and not your inheritors."

Through the years the prophet's words have held true, for even today he who "through understanding" includes the MASSACHUSETTS INSTITUTE OF TECHNOLOGY as a beneficiary in his will can experience thereby a two-fold satisfaction. The successful culmination of his search for a worthy recipient and the anticipated results his generosity will assist in accomplishing. These satisfactions give an added value to the span of man's days and protect his usefulness to his fellowmen far into the future.

The Massachusetts Institute of Technology because of the high quality of the education given its students, its effective research work for aiding America in peace as well as in war, and the high character of its governing body and academic staff qualifies as an institution for serving our American ideals for the present and in the years to come.

But the search, the finding, and the anticipated accomplishments are not enough; for without the properly-worded record, man's plans for the future may go awry. Hence the prophet's importuning, "—give now," should be heeded. The giving need not be an immediate physical transaction, for written directions replace the spoken word when the speaker is no longer present, and a donor can frequently make by will a gift which is larger than he can make while living. Truly, "*it is well to give when asked, but it is better to give unasked, through understanding.*"

A booklet "Gifts by Will," outlining different forms of bequests to M.I.T., is available to you or to your attorney by writing to:

Director of Development

Massachusetts Institute of Technology

Cambridge 39,

Massachusetts

* The "Prophet" by Kahlil Gibran

Club News

New York Presidency Goes to Finlayson

At the annual meeting of the M.I.T. Club of New York, Inc., on September 7 at the Biltmore Hotel the following officers were elected for 1961-1962: D. Kenneth Finlayson, '35, President; George Henning, '33, George H. Ropes, '33, John F. Hennessey, Jr., '51, and Robert W. Morgan, '55, Vice-presidents; Frank P. Brunetta, '49, Secretary; and John E. Preschlack, '54, Treasurer. Directors elected to serve to 1964 were: Augustus B. Kinzel, '21, David M. Broudy, '22, and Edward S. Goodridge, '33.

Route 128 Club Begins Fall Program

The next get-together of the Route 128 Club of M.I.T. has been scheduled for the week of October 30. The luncheon, to be held at the Charterhouse Motel in Waltham, Mass., will offer a speaker with a topic of interest to members and guests alike. Most of you working near Route 128 west of Boston will receive a notice. If you do not, please write to—Robert E. Anslow, '54, Secretary, 32 Woodland Road, Lexington, Mass.

Roy M. Crawford Heads Kanawha Valley Club

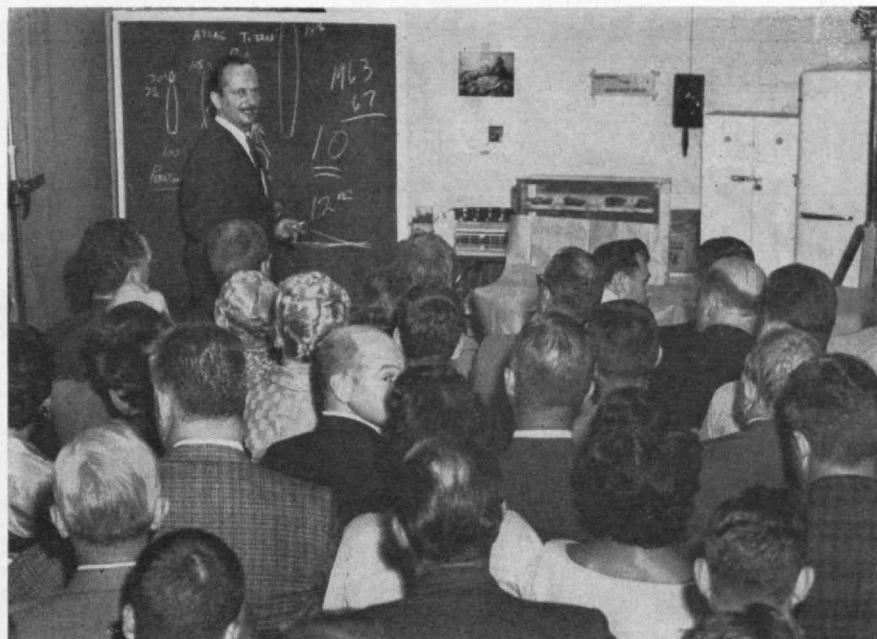
On May 26 the M.I.T. Club of the Kanawha Valley held its annual dinner, and elected its officers for 1961-1962: Roy M. Crawford, '34, President; Robert S. Leithiser, '55, Vice-president; Webster J. Arcenaux, Jr., '55, Secretary. Members of the Executive Committee elected were: Robert J. Kallal, '49, and Richard P. Little, '42.—William E. Moore, 2nd, '50, Secretary, 422 Professional Building, Charleston 28, W. Va.

Boston Stein Club Lists 382 Members

The Boston Stein Club Membership Directory for 1960-61 includes a list of officers, business and home addresses of 169 members, and the home address of 213 more members. With 382 members in all, the classes from 1905 through 1959 are represented with the exception of 1907, 1910, and 1917. Most of the members live in the Boston area, but there are eight from New York, four from Connecticut and one each from New Hampshire, New Jersey, Rhode Island, and Virginia.

A short history of the Club's origin in 1943 and its practical achievements, including funds, scholarships, and a fellowship shows the Club's continuing policy "to foster the spirit of M.I.T."

Copies of the directory may be obtained from John D. Shore, '12, Secretary, 14 Rendall Road, West Roxbury 32, Mass.



Frank S. Wyle, '41, Wyle President, briefs Los Angeles Club before plant tour.

Southern California Club Sees Wyle Laboratories

The M.I.T. Club of Southern California visited the Wyle Laboratories in El Segundo, Calif., on July 18, 1961. The club was the guest of the laboratory's founder and President, Frank S. Wyle, '41. The Wyle Laboratories, founded in 1949, test missile and aerospace equipment in El Segundo and Norco, Calif., and Westbury and New Hyde Park, N.Y.

After a welcome by Frank, the group heard a speech by Robert J. Garon, Vice-president and General Manager. Then they took a complete escorted tour of the various testing facilities at the El Segundo plant including temperature, environmental, and use tests of vessels, electrical equipment, missile components, and other items. The evening ended with coffee and dessert served in the Wyle cafeteria.

On August 9 the club held its most successful dessert get-together to welcome and orient the freshmen students about to enter Tech life. Nearly 60 undergraduates, entering freshmen, and club officers and councilors attended the affair at the University Club in Los Angeles. This was the third such annual gathering and the program was enthusiastically received. Color slides with a commentary were provided by R. G. Kurkjian, '62.—Albert A. Levington, '49, Secretary, 3850 Wilshire Boulevard, Los Angeles 5, Calif.; Richard J. Steele, '46, Assistant Secretary, 15519 Talbot Drive, La Mirada, Calif.

Milwaukee Club Elects Officers

On April 28, 1961, the following Alumni were elected officers of the M.I.T. Club of Milwaukee: John J. Koch, '53, President; Charles Haeuser, '51, Vice-president; Holmes Bailey, '52, Secretary; and Alfred B. Steck, '50, Treasurer.—Holmes Bailey, '52, Secretary, 1025 East Circle Drive, Whitefish Bay 17, Wis.

Californians Hear Draper Emphasize Spacemen's Role

Professor Charles S. Draper, '26, spoke at the July 19 meeting of the M.I.T. Club of Northern California in the Kaiser Center at Oakland, and praised the American space effort at a press conference reported in The San Francisco *Chronicle*.

"There's something missing to the human spirit if our space effort is done by automatic devices," he said, according to *The Chronicle*. A man braving the dangers of space "supplies motivation for the whole population."—Martin D. Robbins, '56, Secretary, McGraw-Hill Publishing Co., 255 California Street, San Francisco, Calif.

Harrisburg Club Chooses Holcombe As President

On Saturday evening, May 27, the M.I.T. Club of Central Pennsylvania had its annual social at Allenberry on the Yellow Breeches in Boiling Springs, Pennsylvania. M.I.T. Alumni and their wives enjoyed a delicious smorgasbord dinner, after which they attended a play, "Send Me No Flowers," staged by the Allenberry Players. Andrew R. Brugnoni, '26, retiring President of the club, announced the selection by the Nominating Committee of Marshall M. Holcombe, '36, as the new president for the ensuing year. Members and guests in attendance were: Mr. and Mrs. Andrew R. Brugnoni, '26, and daughter; Mr. Herbert De Staebler, '21; Mr. and Mrs. A. P. Hornor, '12; Mr. and Mrs. A. P. Hornor, Jr., '36; Mr. Karl E. Katz, '50, and Miss Virginia Thornton; Mr. and Mrs. R. K. Peterson, '48; Mr. and Mrs. Robert E. Smith, '41; Mr. and Mrs. H. R. Spaans, '30; Mr. and Mrs. Percy E. Tillson, '06; Mr. Francis E. Thomas, '17; and Mr. and Mrs. John R. Walsh, '53.—Robert K. Peterson, '48, Secretary, 566 Brentwater Road, Camp Hill, Pa.

Clubs Around the World

Puerto Ricans Call on All Alumni of the Institute To Resist Measures Aiding Communists and Dictators

A RESOLUTION approved by the Alumni Club of M.I.T. in Puerto Rico this year reviewed recent developments in Puerto Rico and concluded:

The Massachusetts Institute of Technology Club of Puerto Rico resolves:

To devote attention and effort, in an aggressive and vigorous campaign, to bring about the conviction on the part of every graduate of the Massachusetts Institute of Technology that, as part of his civic duties, the following are to be comprised, by reason of their utmost importance:

(1) Strive for and strengthen the recognition of the right to derive profits from one's private property as a fundamental human right, in addition to those of life and personal liberty.

(2) Bear in mind constantly that such right to derive profits from one's private property carries with it the not voidable duty on the part of the beneficiary thereof, to contribute through his activities and his property, to the general welfare of the community in

which he lives and where his wealth is located, in such measure as may be necessary for the health, well-being and material and cultural progress of its inhabitants.

(3) To oppose, by legal means, all measures and actions which may lead to the establishment of dictatorships and Communism.

(4) The Massachusetts Institute of Technology Club of Puerto Rico wishes to join in the fulfillment of the aspirations discussed above and will gladly provide facts and figures in usable form concerning the accomplishments and methods used in Puerto Rico. In support of Massachusetts Institute of Technology Alumni in countries affected and interested, we will collaborate in every legal way possible in the attainment of the ends described above.

Copies of the resolution were sent to Chairman James R. Killian, Jr., '26, of the M.I.T. Corporation by Raúl G. Méndez, '55, President of the club.

Taiwan Sends a Scroll As Centennial Gift

The M.I.T. Club of Taiwan has 57 members scattered all over the 13,800-square-mile island, but only about one-third of them living around Taipei can attend its quarterly meetings, usually held at the National Science Hall—the meeting place so chosen not only for its physical facilities but for the availability of a chef whose culinary products please the most fastidious palates. At the July 20 meeting in Science Hall, Club President Jung-An Lo, '21, reported on M.I.T. President Julius A. Stratton's acknowledgment of the club's Centennial gift of a Chinese water-color scroll painting, executed for the occasion by artist Ran In Tin.

Treasurer Nai-ping Ni, '45, who recently married Miss Teh-chun Chow at Taipei, reviewed the club's financial year and reported it as satisfactory. A hearty welcome was extended to Omar Wing, '52, a Fulbright Lecturer at the Chiao Tung University Research Institute of Electronics, who visited the club for the first time with his charming wife, daughter of C. T. Chien, '22.

We then elected our 1961-62 officers: Man C. Chan, '26, President; Wen S. Lu, '20, Vice-president; Yu-chi Chang, '58, Secretary; and Nai-ping Ni, '45, Treasurer.—Yu-chi Chang, '58, Secretary, 34 Roosevelt Road, Sec. I, Taipei, Taiwan.

The Centennial Greetings Are Heard in Tokyo

The M.I.T. Association of Japan celebrated the Centennial by listening to the sound tape of remarks by Dr. Stratton, greetings from the President of the U.S., and Dr. Killian's principal address. Clinton B. Conway, '24, brought the tape to Japan, and wrote later of his visit to the club: "In addition to Mrs. Conway and me, who were listed as 'main guests,' Edwin E. Aldrin, '17, of New Jersey was present. . . . [as were] a group of more than 60, including ten or twelve ladies.

"Instead of a formal dinner, the meeting was more on the order of some of our cocktail parties. . . . By standing or sitting in small groups, which were constantly being changed, everyone had an opportunity to become well acquainted with the others. This lasted from about five to seven and was in the International House.

"Following this, the group assembled and the tape was played. Everyone followed the recording with great interest. Had the speakers been present in person they could not have had a more attentive audience. At the end there was much applause. I then showed slides which I had taken of the inauguration of President Stratton and such of the associated Alumni Day activities (remember the rain?) as I could get. I also showed a few slides of the 1957 Alumni Conference. These were supplemented by slides taken by Japanese Alumni on their recent visits. One group included a visit to the home of Dean Harold Hazen, '24, and the summer home of another professor on Lake Winnipeg-sauke . . .

"The meeting ended about nine and we came away with the feeling of a wonderful welcome to Tokyo, the largest city in the world, which we had first seen only nine hours earlier. We were received with a spirit of friendliness which we were to find all over Japan."

At this meeting we noted that our Association was established fifty years ago in 1911 under the presidency of the late Baron Takuma Dan, '78. At the conclusion, Y. Chatani, '22, presented each of us ash trays given by his classmate, Robert Tonon, '22, to commemorate the Centennial.—Shikao Ikehara, '28, President, M.I.T. Association of Japan, Tokyo Institute of Technology, Oh-Okayama, Meguro-Ku, Tokyo, Japan.

Vidura Vithiol Talks to the Thailand Club

Luang Vidura Vithiol, '25, spoke to 30 members of the "M.I.T. Club of Thailand" at our fourth annual meeting on June 30 at the Plaza Hotel in Bangkok. At the meeting were Bisal Sukhumvid, '23, President; Toum Hutasing, '55, Secretary; Sunt Techakumpuch, '53, and Prasong Hetrakul, '58, Assistant Secretaries, and also one of our newer members, Sivavong Changkasiri, '58, who has been back from M.I.T. for only a year.

I have just been "welcomed" into the club officially after being back home for almost two years.—Adul Pinsuvana, '59, Directorate of Air Engineering, Royal Thai Air Force, Bangkok, Thailand.

The Alumni in Haifa Hold Centennial Dinner

A highly successful dinner meeting was held in May to celebrate M.I.T.'s Centennial. Thirty members and guests with their wives came to the Faculty Club of the Technion in Haifa. The guest speaker was Edwin S. Burdell, '20, Consultant President of the Middle East Technical University in Ankara, who delighted his listeners with a brilliant and witty talk on education. Club members were happy to meet Mrs. Burdell.

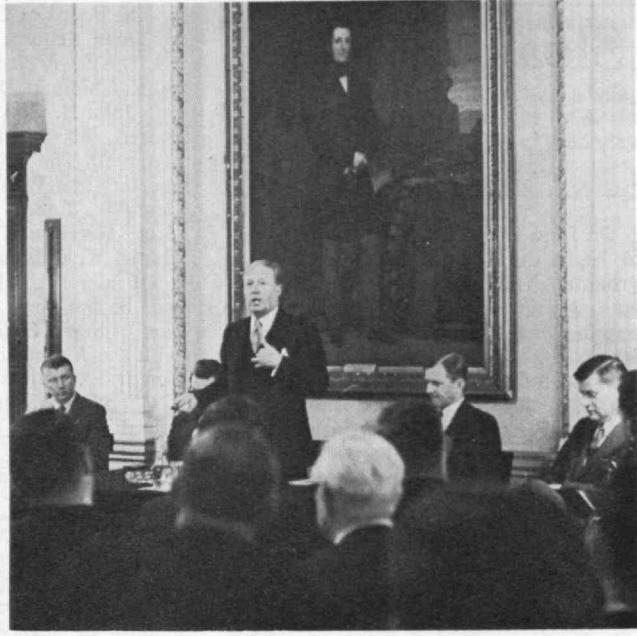
President Joseph G. Zeitlen, '39, is departing for sabbatical leave and will be with the department of engineering at U. C. L. A. for one year. Chaim Swirsky, '33, will be acting president until the elections in the fall.—I. Minkoff, '56, Secretary, Department of Metallurgy, Israel Institute of Technology, Haifa, Israel.

Buenos Aires Celebrates Centennial at Dinner

On April 10, the M.I.T. Club of Buenos Aires celebrated M.I.T.'s 100th anniversary at a dinner at the American Club. Nineteen Alumni attended the dinner, which was a great success. The club is headed by Luciano A. Presloran, '22, President, and—Eduardo V. Oxenford, '45, Secretary-Treasurer, Las Heras 2738, San Isidro, Argentina.



IN ITALY, at Milan, the Fellows heard Dr. Carlo Bombieri, Direttore Centrale, Banca Commerciale Italiana, comment on the Common Market. C. O. Iltis, '61, is at left.



IN ENGLAND, the Sloans heard Edward Heath, Lord Privy Seal. M. J. Laurier, '61, is at extreme left, and W. M. Young, '61, at extreme right in the photo.

The 1961 Sloan Fellows Have Distinguished Instructors in Europe

FORTY-TWO Sloan Fellows completed their year of study of advanced economics and industrial management at M.I.T. last spring by spending 18 days traveling and listening to key men in London, Frankfurt, Milan, and Paris. Accompanied by six members of the Institute's Faculty, their objective was to study European progress in management and technology, strengthen their awareness of European culture, institutions, and attitudes, and thus gain a better understanding of the

total environment of the companies which they serve. They were particularly interested in studying the meaning of the European Common Market at close range.

In addition to the men pictured in these photos (taken by Elmer N. Lenk and Kenneth I. Lichti), they met Anthony Barber, Britain's Economic Secretary; Pierre Epron, President of Lorraine-Escaut; Dr. Hermann Abs, of the Deutsche Bank; Dr. Roberto Olivetti of Societa Olivetti, and many other noted Europeans.



IN FRANCE, Wilfrid Baumgartner, Minister of Finance, answered questions about his country's economy. L. P. Bodmer, '57, former Sloan Fellow, helped plan meetings.



IN GERMANY, Dr. Hellmuth Wagner, Deputy Managing Director of the Central Federation of German Industries, met F. W. Mohney, '61, and A. M. Singer, '48, and others.

Sloan Fellows

On June 17, 43 Sloan Fellows reported to begin the 1961-62 Sloan Fellowship Program. Their introduction to the program was a week-long session in sensitivity training under the leadership of Professors Schein and Bennis. The summer term ended with field visits to several companies in the Northeast. These included a visit to Sprague Electric Company, arranged by former Sloan Fellow **Robert C. Sprague**, Jr., '58. The Fellows also traveled to Rochester, N. Y., for a visit with the Delco Appliance and Rochester Products Divisions of General Motors. These visits were under the guidance of **John G. Hart**, '61, and **Harold Stahl**, '61. A very full day was spent with Eastman Kodak Company where the current Fellows met **M. Wren Gabel**, '39, Charles R. Adler, '60, Edward H. Carman, '59, David S. Greenlaw, '57, Robert W. Miller, '52, **Wylie S. Robson**, '56, Robert A. Sherman, '55, and George E. Yeomans, '41.

The Board of Governors of the Society of Sloan Fellows met at M.I.T. on June 13. The newly elected Governors are Daniel K. Chinlund, '50, Joseph T. Cosby, Jr., '40, John H. Gerstenmaier, '52, Walter P. Rozett, '60, and Maurice J. Laurier, '61 (Annual). The new officers elected at this meeting are: **Wylie S. Robson**, '56, President; **W. Endres Bahls**, '42, Vice-president; **Harrison T. Price**, '55, secretary; **Daniel K. Chinlund**, '50, treasurer.

Of interest to all former Sloan Fellows will be the news that the next Convocation of Sloan Fellows will be held jointly with the Alumni of M.I.T.'s Program for Senior Executives.

Changes affecting Sloan Fellows received during the summer include the announcement that **M. Wren Gabel**, '39, of Eastman Kodak Company, has been elected a member of the Board of Directors. . . . **H. B. Christianson**, '53, has become director of Industrial Engineering and Applied Procedures of the Missouri Pacific Railroad Company. . . . **Vern R. Hatch**, '54, is the new executive assistant to an assistant vice-president of the American Telephone and Telegraph Company with headquarters in New York. . . . **George V. Mohn**, '55, is now vice-president of Marketing of the Hancock Telecontrol Corporation in Jackson, Mich.

. . . **Harry W. Buchanan**, '56, is the new executive vice-president of Metal and Thermit Corporation. . . . **Richard R. Hydeman**, '56, has been appointed vice-president in charge of Marketing and Engineering of the Taylor Fibre Company. . . . **Edward E. Harriman**, '57, has transferred from the Department of Defense to become Director of Research and Engineering of the U.S. Post Office Department. . . . **Thomas R. Wiltse**, '57, is now director of reliability, Central Foundry Division of General Motors, in Saginaw, Mich. . . . **John J. Mahoney**, '58, has left the Air Force to accept a position with General Mills in Toledo, Ohio. . . . **Eugene J. Popma**, '58, has been named General Traffic Manager of the Indiana Bell Telephone Company. . . . **Howard H. Kehrl**, '60, is the new manager of the Quality Control Department of Chevrolet. . . . **Frank Walter**, '59, is director of Product Planning and Chief Engineer of Plymouth. . . . **Jerome W. Keating**, '61, on his return from M.I.T., has been appointed manager of the Rocket Manufacturing Division of Aerojet's solid rocket plant. . . . **Bhupendra K. Sethi**, '60, is joint president of a state-wide organization of industrial employers which is receiving wide recognition in India.—**John M. Wynne**, Room 52-455, M.I.T.

Deceased

ROBERT T. PAINE, '87, Aug. 12
SYLVANUS H. COBB, '88, Dec. 25, 1960
CARLETON A. READ, '91, no date given*
ERNEST S. TAPPAN, '91, June 4*
GEORGE B. DEGERSDORFF, '92, June 19*
COURTLAND R. DARROW, '93, July 30
WILLIAM C. WHISTON, '93, July 31
HOWARD R. BARTON, '94, no date given*
HORACE A. CRARY, '94, May 18*
JOHN J. HOLLISTER, '94, May 4*
EDWARD A. EAMES, '96, no date given*
PIERRE E. RICHARDS, '96, no date given*
EDUARDO E. SALDANA, '96, no date given*
MORITZ SAX, '96, May 25*
HENRY M. LOOMIS, '97, Aug. 17*
FLORENCE WOOD EWING, '97, July 23*
JOHN B. FERGUSON, '99, May 2*
CHRISTINA H. GARRETT, '99, no date given*
DUDLEY M. PRAY, '99, April 26*
JOHN L. DAKIN, '00, May 7*
FRANKLIN N. CONANT, '00, Aug. 8*
F. WARD COBURN, '01, Aug. 7
ALBERT L. GALUSHA, '01, Aug. 13
DURWARD COPELAND, '03, May 28*
MYRA L. DAVIS, '03, Feb. 14*
ARTHUR C. DOWNES, '04, Feb. 11*
LEWIS G. GILLETT, '04, July 5*
HIRAM A. HILL, '04, Feb. 9
JAMES G. METCALFE, '04, July 11*
JOHN AYER, '05, Aug. 31*
WILLIAM P. BIXBY, '05, July 11*
GEORGE FULLER, '05, April 23*
BURTON E. GECKLER, '05, May 29*
JEROME G. HARRISON, '06, Aug. 19*
THOMAS J. HOLMES, '07, no date given
WILLIAM F. KIMBALL, '07, Nov. 23, 1960
ROBERT TAPPAN, '07, May 29*
LAURENCE T. WALKER, '07, June 22*
GEORGE A. QUINLAN, '08, April 8*
JOHN N. BROOKS, '09, June 5*
DAVID P. MARVIN, '09, Oct. 1960*

STUART L. HENDERSON, '10, May 8* ~
LAWRENCE G. RICE, '10, July*
CYRUS N. WHITE, '10, Aug. 23*
SYDNEY ALLING, '11, July 1*
SAMUEL I. BLUM, '11, June 12*
EARL R. BROWN, '11, Dec. 19, 1960
WALDEMAR DIAZ, '11, no date given*
ROGER P. LOUD, '11, Aug. 29*
HALL SARGENT, '11, Oct. 25, 1960*
CHARLES H. MILLS, '12, April 8
WILLIAM S. WOLFE, '12, July 1
JOHN P. COE, '13, June 23*
HAROLD T. MCKENNA, '13, no date given
FRANKLIN A. REECE, '13, July 12*
FRANK T. BALKE, '14, no date given
HAROLD H. MARSH, '14, no date given
YIANG Y. CHOW, '15, March 30
ARNOLD P. HOMAN, '15, no date given
JOHN A. KELLEHER, '15, no date given
JESSE POTTER, '15, Jan. 14
MALCOLM THOMSON, '15, May 4*
RALPH B. BAGBY, '16, June 25*
JOSEPH S. FOGERTY, '16, no date given
JOHN R. FREEMAN, JR., '16, Sept. 3
FREDERICK W. HARRIS, '16, no date given
ROBERT E. NAUMBERG, '16, 1959
BRADFORD STETSON, '16, no date given
PORTER C. WEBBER, '16, June 13*
FRANCIS O. L. KILLORIN, '17, Nov. 22, 1960*
WALTER T. MAHANY, '17, no date given*
OTTO E. NIELSON, '17, no date given*
NEAL E. TOURTELLOTE, '17, June 28*
ROBERT S. MEANS, '18, Aug. 12
RALPH SARGENT, '18, Aug. 25
ARTHUR H. BLAKE, '19, June 3, 1960*
WIRT F. KIMBALL, '19, May 15*
LOUIS B. BENDER, '20, April 2
BLYTHE M. REYNOLDS, '20, June 25
IGOR N. ZAVARINE, '20, Aug. 20*
ORRIN CHAMPLAIN, JR., '21, April 28*
JOHN M. GUNDY, JR., '21, May 16*
JAMES L. KING, '21, no date given*
OTTO NIMITZ, '21, Feb. 9, 1960*
EDWARD R. SCHWARZ, '21, July 27*

*Further information in Class News.

Class News

'78

On May 22 the Hopedale (Mass.) Community Historical Society met to honor the late Governor **Eben S. Draper**. Governor Draper was born in Hopedale in 1858 and was graduated from the Institute in mechanical engineering 20 years later in 1878. With his brother, William, Mr. Draper developed what is now the Draper Corporation, makers of cotton looms and other textile equipment. From 1909 to 1911, he served as Republican Governor of Massachusetts.

A staunch supporter of the protective tariff, Mr. Draper served as state chairman for the Republican Party. His friendship for the late President William Howard Taft was well known, and the two often met at Draper's Adin Street home in Hopedale. Governor Draper was a member of the Home Market Club, Somerset Club, and a trustee of Peter Bent Brigham Hospital. The contributions of Governor and Mrs. Draper to the Milford Hospital will ever remain a monument to their generosity and humanitarianism. Governor Draper died on April 9, 1914.

'91

Our 70th annual meeting and banquet was held at the Brookline Country Club on June 10. Six of our class members with their guests made a company of 11. **Linfield Damon** and his son Sherman headed the list. Besides the Damons, **Harrison Cole** and daughter from Pembroke, **Ed Earl** with his daughter from Leominster, **Arthur Pierce** of Pittsfield, **Ambrose Walker**, now of Commonwealth Avenue, and **Channing Brown** with his grandson, Channing Murdock.

The following members of the class who have recently died were recalled. . . . **Joseph A. Warren** died July 21, 1959. He was head of a great industry in the state of Maine. . . . **Sylvan L. Stix** died September 1, 1960. He was an industrial leader and humanitarian in the New York area. . . . **Carleton A. Read**, who was a teacher at Worcester Tech, a practical engineer for Worcester County and a member of the Worcester Engineer's Club, died March 3, 1960. . . . **Ernest S. Tappan**, who died June 4, 1961, was a graduate of Roxbury Latin School, a lover of M.I.T., the Class of '91 and all its members.

Among those who sent regrets, here are two of note: the following wire is from the daughter of **Harry Young**. You remember, she was the Class Baby, always a warm and generous friend of the class: "Very affectionate greetings to my

father's friends from the Class Baby. Thanks for the invitation but must be in Westport, Conn., today for marriage of our granddaughter, Judith Clay.—Miriam Young Holden." And here is the response of **Charles Urban**, a leading lawyer of Cincinnati, who has kept a warm interest in the class and its doings for years: "Dear Brother Brown: Your note of June 5 just came in. I should have answered your former letters long before this but purposely delayed in order to ascertain positively whether or not I could attend the reunion. I now find that I cannot and sent in a postal to that effect yesterday. Clients are here from California and of course their wants demand my first attention. You cannot imagine how much the situation grieves me. I had pictured many times going East, attending the reunion, mixing with the 'oldsters,' touring the Tech and having a good time. However, it seems that was just not to be. You asked for a few lines, and I cannot think of a better subject than our former president, Francis A. Walker, of whom I was always very fond. Let me therefore relate the following instance. First, you will recall that in our day the Faculty frowned upon athletics and discouraged any participation on the part of the students. In the large lobby of the old Tech building there stood an easel upon which rested a blackboard for the purpose of posting notices to students. I was passing through the lobby one afternoon when the word 'football' on the blackboard came to my attention. Being a member of the freshman football team, I walked up to read the notice, and it stated that football practice would be held at such and such a time and place. Just as I had finished President Walker came up. He stood by my side, slowly read the notice, then reached out and turned the blackboard completely around so that the notice could not be seen. He then smiled and walked away. That little act on the part of President Walker was one of the most diplomatic I have ever witnessed. He told me what he wanted me to know without uttering a word. I have since thought that he would have made a most efficient member of our 'diplomatic corps.'"

It would be wrong to close this letter without a tribute to our excellent, respected and beloved classmate **Ernest Salisbury Tappan**. No man of our class was more loyal and devoted than he. His intention, until a few weeks prior to our annual meeting in June, was to be present in spite of overwhelming physical infirmity. But life became too heavy and he dropped the burden only six days before our meeting was held, but some of us will remember him with pleasure. It is said that people do not really die until they are forgotten.—**William Channing Brown**, Secretary, 36 Foster Street, Littleton, Mass.

'92

It is my sad duty to report the death of another classmate, **George B. deGersdorff**, who died on June 19. I am sorry that I have no record of his career. . . .

The secretary was the only member of our class present at the Alumni Day luncheon meeting last June. I sat with two members of the Class of '91, listening to a very interesting program.—**Charles E. Fuller**, Secretary, Box 144, Wellesley, Mass.

'94

Once more it is time to pass on whatever gleanings of news from the class may have come to the secretary. Some of these were delayed because of an upset and brief hospitalization in California in early April, but most of the items have come to hand since the time for notes in the July Review. Most of these, also, will bring sadness and a renewal of the feeling that the class is now one of seniority and passing from the stage of activity. It is, therefore, with much regret that first mention be given to the great losses we have sustained through the death of several members whose lives have been notable for accomplishment and good works.

Our much beloved Class President, **Horace A. Crary**, died suddenly at his home in Warren, Pa., on May 18, following several days of usual activity, when he seemed to be in the fullness of vigor. On the previous Monday he had driven to Erie for the trustees meeting of his beloved Zern Zern Hospital for crippled children in which he was greatly interested. On the following day, he walked to the polls and voted. On Wednesday he gave the orders that set in motion the expansion of the factory that he had previously built. And on that afternoon he played 14 holes of golf. Ever on his feet up to the last moment, he was apparently in full health when the heart attack finished his brilliant and useful career. We of his class knew him chiefly as a genial companion, a fine and able character, and a most enthusiastic golfer who was always a staunch supporter of '94 and of M.I.T., but his business career also shows him to have been long a prominent leader in the oil business. He was a joint founder in 1907 and continuously president of the Pennsylvania Furnace and Iron Company until his death, and for more than sixty years was active in civic, commercial, humanitarian, church and social activities in Warren. For more than ten years he served as a member of the Borough Council. Born in Sheffield, Pa., June 1, 1873, son of Jerry and Antoinette Dunham Crary, pioneer residents of the area, he was graduated from the Warren High School in 1890, coming then to M.I.T., where he enrolled in civil engineering and was graduated in 1894, after which he was associated with his father in the oil and gas business in Pennsylvania.

Horace married in 1902 Miss Elizabeth Stone who died in 1943. They had no children, hence perhaps his intense interest in aid of crippled children. In 1944 he was wedded to Miss Helen Lauffenburger, who survives him, and whom all who have attended class reunion since their wedding will remember with utmost regard and affection.

Horace was a member of the First Methodist Church, many Masonic orders, and Zern Zern Temple of the Mystic Shrine in Erie, which was the moving spirit in the famous hospital for crippled children. He was active in the Warren County Shrine Club, the Rotary Club, Coneaugo Valley Country Club and Pinehurst Country Club, and in such projects as the Community Chest and other benevolent agencies. The Warren Times-Mirror commented on him as one of the community's most prominent and generous men, whose many philanthropies are unknown except to himself and the people or organizations concerned. We of the class recognized this quality in his desire to be host to the class at its 65th Reunion two years ago. We know that we have lost a leader who had the character and the qualities that constitute greatness.

In Goleta, Calif., at his home on May 4, 1961, occurred the death of **John J. Hollister, Sr.**, at the age of 90. Described by a Santa Barbara newspaper as one of the patriarchs of the Old West, this man who had acquired distinction and honor in his native state was, during the first two years of our class, a member of '94 who will perhaps be remembered by those of us who entered in 1890. John Hollister was born December 7, 1870 on his father's ranch west of the present town of Goleta, and after private tutoring attended the Belmont School for Boys, from which in 1890 he entered M.I.T. and began the study of engineering. His association with us at M.I.T. was brief. Returning to California after his second year, he learned of the opening of (Leland) Stanford University in 1891, and thereupon transferred to that institution, where he became a member of the first class of 1895, and took a degree in engineering in the same class with Herbert Hoover. He joined an expedition in the Klondike gold rush, bound for a reputed strike north of the Arctic circle, but after being snowed in for an entire winter deep

Happy Birthday

Congratulations were in order during October and November for five Alumni due to celebrate 90th anniversaries; and to 17 and 24 Alumni about to turn, respectively, 85 and 80, as listed below with dates of birth.

October, 1871—GEORGE S. BARROWS, '93, on the 4th; HOUGHTON SAWYER, '02, the 6th; ARTHUR C. NASH, '96, the 21st; and FRANK R. COOK, '96, the 22nd.

November, 1871—FERDINAND A. SCHIERTZ '94 on the 15th

SCHIERTZ, '94, on the 15th.
October, 1876—JOHN P. ILSLEY, '97,
JAY N. PIKE, '01, and JACOB STONE, '99
on the 1st; ROBERT M. VINING, '98, on
the 8th; WILLIAM F. HYDE, '99, and MARY
N. PHILLIPS, '03, on the 17th; WILLARD
B. NELSON, '98, on the 20th; STEPHEN
BADLAM, '00, on the 21st; ARTHUR L.
GOODRICH, '98, and CHARLES A. HOLM-
QUIST, '06, on the 25th; GEORGE D. AT-

QUISI, '66, on the 23rd; GEORGE D. ATWOOD, '00, on the 27th; RALPH R. RUMERY, '98, on the 29th; and Mrs. CHARLES E. A. WINSLOW, '04, on the 30th.

in the interior of Alaska, he returned to Santa Barbara. He became a deputy county surveyor, and married the sister of the author, Lincoln Steffens, in 1900 in the home of his bride's parents, which home was later sold to the state and is now the Governor's Mansion. They then moved to the Santa Anita ranch near Gaviota where his wife died in 1956. Hollister served as manager of several mines in Tuolumne County and in Mexico. He returned to Santa Barbara in 1909 and took over the active management of the extensive Hollister Estate Company, and was president of the company until shortly before his death. The diatomaceous earth deposits operated by the Johns Manville Company, near Lompoc, are on Hollister land. Mr. Hollister was elected to the State Senate in 1924, serving two terms as a Progressive Republican and reflecting the ideas of Theodore Roosevelt and Herman Johnson, and in 1936 during the depression was elected to another term as a Democrat.

He is survived by two sons, Senator J. J. Hollister, Jr., and Dr. Clinton Hollister, a Santa Barbara physician, and a daughter, Mrs. Jane Wheelright of Kentfield. Nine grandchildren and seven great-grandchildren also survive. A portrait of him showing him as a handsome white-haired man at his desk appeared two years ago in Time Magazine. We wish that he might have continued his student career at M.I.T. as he was unquestionably a man of high ability.

With sorrow, I have also to report the death of another of our classmates, **Howard R. Barton**, who died very suddenly at his home in Hamden, Conn., on August 22, from an internal hemorrhage. He had been feeling very well recently, had gone visiting over the weekend, and had worked in his shop on the previous day. Some months ago he had suffered from a fall while working in his garden. He was in his ninetieth year. Born in Brooklyn, he and his parents moved to Englewood, N.J. in 1893. He

and JOSEPH C. RILEY, '98, on the 21st;
and FRANK TOOHEY, '03, on the 24th.

October, 1881—FREDERICK W. HINDS, '06, on the 4th; WILLIAM W. MARSTON, '04, on the 9th; STANLEY P. FINCH, '09, on the 10th; ARTHUR P. PORTER, '04, on the 11th; CLAUDE S. McGINNIS, '06, on the 12th; LEON H. SMITH, '04, on the 13th; SAMUEL L. WARE, '06, on the 14th; JAMES A. GRANT, '10, and J. GARFIELD RILEY, '06, on the 16th; LEROY L. HUNTER, '03, on the 20th; FREDERICK C. LINE, '06, on the 21st; CHARLES G. LORING, '06, on the 23rd; and PHILIP E. HINKLEY, '05, on the 30th.

LEY, '05, on the 30th.
November, 1881—MAX C. RICHARDSON, '05, on the 3rd; CHARLES B. COX, '03, on the 4th; HERBERT T. KALMUS, '04, on the 9th; HERBERT L. SHERMAN, '02, on the 11th; ARTHUR D. SMITH, '04, and THEODORE F. STARK, '09, on the 14th; ARTHUR M. BELLAMY, '06, on the 16th; CHARLES E. SMART, '05, on the 19th; WILLIAM V. McMENIMEN, '03, on the 23rd; GEORGE W. PRENTISS, 2d, '05, on the 27th; and ROBERT J. KING, '03, on the 29th.

came from that town to M.I.T. in 1889, to take five-year courses in both electrical and mechanical engineering, and was graduated with our class of '94. On graduation he found employment with the well-known consulting firm of Westinghouse, Church, Kerr, and Company, remained with them throughout World War I, and built the U.S. Naval Powder Factory at Indian Head, Md. He was particularly competent in electric power plant design and was in charge of the design and construction of many of the plants of the Long Island Lighting Company. From this work he retired in 1940. In 1941 he joined Wescott and Mapes in New Haven as power plant consultant for the duration of World War II, and then retired to Hamden, where he resided until his death.

After retiring he was deeply interested in gardening and in working in his excellently equipped shop. He is survived by his invalid wife, Ethel B.S. Barton, a daughter Catherine G. Barton, of Hamden, and a son Alfred P. Barton, '40, of Wayne, Ill. He had two sisters, Ethel and Eleanor Barton, residents of Englewood, N.J., and there are six grandchildren. Barton's funeral was held at St. Paul's Church in Englewood, of which he had been a member for many years.

Because of his association with two classes, Barton had many friends in both, but he chose allegiance with '94, and was especially happy to attend, with both son and daughter, the 65th Reunion where we were guests of the beloved and now lamented President Crary. Barton was a man of warm personality and studious indications, highly regarded by all who became closely associated with him.

With regret, the secretary reports also the death of **Milton M. Wheeler** who was a member of our class during the first two years as a student in civil engineering. For many years, he was a resident of Kentucky, but had lived in Sarasota, Fla., for several years previous to his demise there. As he was not responsive to class letters or notices, the secretary cannot give a resume of his career and no clippings relating to him have been received.

A letter from **George Sherman** in July reported that he is fairly well and is still doing business as usual, with one of his sons carrying the major burden. He reports, however, that in order to secure the food and treatment that will best maintain his health he is now living in a comfortable nursing home in Akron. It was good to hear from him and to know that he is still ready to supply any kind of used equipment that a purchaser may desire. Best of luck and good wishes to the junkman of Akron!

A note from Andy Fisher called attention to a report in the New Yorker (week of May 22) of a dinner in Washington in honor of Gilbert H. Grosvenor of the National Geographic Society. The report quotes Mr. Grosvenor as saying: "It was **Abbot** who started Goddard on rockets (missiles)—forty or more years ago." This is quite believable for Abbot had zest for any research that related to astrophysics. Incidentally, the report has reached the writer that the remarkably accurate weather prognostications in *The Old Farmer's Almanac* have been due to

the published reports on future weather that have emanated from Abbot's long and careful studies, which he is still making although long since officially retired except as a research associate of the Smithsonian Institute. . . . **Arthur Tidd** is having a wonderful time carrying on his genealogical studies on the Tidd Family in America. Woburn, Mass., which is the city from which Arthur came to M.I.T., seems to have been the center of Tidd immigration back in the early 1600's and the point of departure for numerous Tidds to all parts of America. Art's researches have been of great interest and value.—**S. C. Prescott**, Secretary, Room 16-317, M.I.T., Cambridge, 39, Mass.

'95

On May 12, 1961 our efficient secretary, **Luther K. Yoder** left us, after several years of gradually failing because of hardening of the arteries. During the last three weeks before his death he was in a coma in the local hospital in Ayer, Mass. Luther had an enviable record as a fine and efficient class secretary and for filling the bill when vacancies occurred. He had an interesting and varied career from the time he entered Tech, during which time he was our secretary for a year. Returning in 1925 from Pittsburgh, Pa., to New England, he retired to 69 Pleasant Street, Ayer. At that time he became our class secretary and remained so until he went to the hospital. He took great interest in local affairs, especially the hospitals, and he often went on camping trips with the local Boy Scouts.

Luther Keller Yoder was born September 1, 1872 at Reading, Pa. In the fall of 1891 he entered M.I.T. and was graduated with us as an S.B. in Course II. He was a member of Delta Upsilon fraternity and the "Odd Fellows." On January 7, 1903 he was married to Edith Bennett Morton. Their son, Morton Yoder, was born September 13, 1908.

From June, 1895 to April 18, 1897 he was with the Maryland Steel Company at Sparrows Point, Md., serving as a machinist. His work included the manufacture of blowing engines, compressors, suction dredges and tug boats. Luther worked on the suction dredge "Mississippi;" helped install blowing engines at the Troy Steel Company in Troy, N.Y.; and assisted in the erection of a viaduct between Fairhaven, Mass., and Duff's Island at New Bedford. From April 18, 1897 to December 23, 1897, with the Cleveland Rolling Mill Company of Newburg, Cleveland, Ohio, he worked on design and installation of rolling mill equipment. From December, 1897, to November, 1901, he was assistant to the head of the Experimental Department of Deering Harvester Company, Chicago. After that he was in charge of the department for one year. After November, 1901, he was with the Jones and Laughlin Steel Company of Pittsburgh. He started on the drawing board in designing, and before long was placed in charge of all outside installation and erection with a corps of 52 "Engineers of Erection." This work proved to

be the most interesting and fascinating of all his experience. Installations covered Bessemer plants, open hearth plants, all types of rolling mills, buildings, sewers and tracks of all descriptions. The most notable feature was the installation of the first 200-ton tilting open hearth furnace of the Talbot type. Jones and Laughlin was the pioneer in installations of this capacity.

In 1905 he had the unique experience of fighting a cinder bank fire which occurred 40 feet underground. It was necessary to keep the machinery and building above ground in operation. The fire area covered about 25,000 square feet and eventually after a fight of about three months it was conquered. In March, 1908, Luther was transferred from the engineering department to the operating department as assistant in the shops and foundries. Work in that department covered the building of new machinery and repair of plants for maintenance, as well as the manufacture of all kinds of cold, rolled and cold draw shafting, rounds, hexagons, squares and flats, and power and transmission machinery. In 1915 he was in charge of the department as superintendent of shops and foundries, and during this year erected and equipped the finest factory building in the United States for the exclusive manufacture of cold drawn steel products. It may be interesting to know that the Jones and Laughlin Steel Company was the first, we believe, to roll shell steel billets and blooms successfully direct from a "blooming mill," thus avoiding the re-rolling in the "finishing mills." In World War II he was past draft age and was elected to care for the Home Defense as a part of an organization which contributed about 3,000 soldiers for active service. Someone had to keep the "home fires burning."—**Andrew D. Fuller**, Secretary, 120 Tremont Street, Boston, Mass.

'96

Mrs. Campbell, Driscoll, Pierce and Smetters were at the Alumni Day Luncheon. **Bob** and Mrs. **Davis** usually attend but they were absent because of difficult driving and parking conditions. They told me this when I stopped at their house in Sandwich recently. I had known that their house was opposite the bank. The bank is now back from the road, and the vacated area is tastefully landscaped so that the lawn livens up the village and is of special benefit to the old Davis home.

. . . **Herbert D. Newell** writes from Portland, Ore., a nicely typed letter acknowledging the felicitations from the class on his 90th birthday, August 6. He finds hearing and sight somewhat impaired; he, too, is chagrined at the immobility incurred by not driving an automobile. "I hope you are enjoying sailing. It is something I never had the opportunity of doing."

Fred Owen writes from Fort Wayne, Ind., "I looked over an article in a Boston paper and see that I would hardly recognize the place. . . . I sure would like to visit the M.I.T. buildings." Last month a Boston paper had a paragraph about

Henry Hedge's daily visit to the shore that the bronze statue of Massasoit overlooks; the article told how through several deceased proxies he had shaken the Indian's hand.

The Alumni Office has received information of the death of **Moritz Sax**, **Edward A. Eames** and **Eduardo E. Saldana**; no further information has been received. We also received notice earlier of the death of **John H. Pardonner, Jr.**, who died February 5, 1949; **Leebert L. Lamborn**, who died January 21, 1956, had been a private banker in Mexico for some years; and **Pierre E. Richards** was a sales manager with Colgate and Company, in London and Paris.

Here is the first instalment of a letter from **Bill Coolidge**: "Dear Jim, Dorothy and I have recently returned from an interesting tour of the Scandinavian countries and Finland. For 10 days of the 35 we were north of the Arctic Circle. To mention only a few of our many new impressions: In Denmark, we were sensitive to the absence of slums, the complete freedom from rubbish on the streets and sidewalks, the absence of billboards along the roads, and the general profusion of flowers both indoors and out. The country is so flat as to emphasize the many thousands of Bronze Age burial grounds. The remains of the old Viking camps and boats are interesting. A visit to the Museum of Hans Christian Andersen Memorabilia at Odense was, if course, a must.

"In Norway, we visited Oslo and later the northern fjord area from Tromso to Cape North. In Oslo, we were greatly impressed by the wonderful Vigeland statues in Frogner Park.

"Our visit to Sweden was limited to two days in Stockholm. Here it was possible to see much of the city by boat from the water around its various islands.

"Finland and Finnish-and-Norwegian Lapland had perhaps most novelty to offer us. Although we had read of Finland's many thousands of lakes and islands, it was still surprising to see them; and to learn how much of the southern half of the country could be seen from the deck of a lake boat. The lakes and their islands, surrounded by the heavily-wooded pine forest, are very attractive. To the tourist, the ever-present sauna is of unfailing interest. This little building, preferably at the edge of a lake or river, is the first to be erected by the home-maker. It furnishes housing while the dwelling is being built and thereafter serves as the facility for the weekly vapor bath, which can be closely followed by a cold-water plunge or, in winter, a roll in the snow. The vapor comes from water thrown on heated stones."—**James M. Driscoll**, Secretary, 129 Walnut Street, Brookline, Mass.; **Henry R. Hedge**, Assistant Secretary, 105 Rockwood Street, Brookline, Mass.

'97

In spite of our pleas, a smaller than usual group of the faithful members turned up for the luncheon on Alumni

Day, June 12, **George** and Eleanor Wadleigh came from New York, **Bill Binley** from Exeter, N.H., and **Charles Currier** and your secretary from nearby. Since the seats assigned to '97 were so far away from the center of activities that we failed to locate them, the Wadleighs and your secretary rudely encroached on the preserves of '98, who for some unknown reason had been located almost opposite the speakers' platform and next to the 50-Year Class.

Against his better judgment the undersigned was persuaded, since he had been duly elected at our 60th Reunion, to resume the office of secretary-treasurer, with **Jere Daniell** serving as assistant secretary. It was the consensus of those present that our 65th Reunion should consist of a luncheon the day after Alumni Day in '62 with wives present; we hope to hold the luncheon at the Endicott House in Dedham, if it is available.

We regret to report the death, on July 23, of Mrs. **William C. Ewing** (**Florence A. Wood**) Course VIII, at Las Vegas, N.M. Her late husband was also a member of our class. . . . **Henry M. Loomis**, V, died on August 17.

It is always a unique pleasure to hear from Professor **Alfred M. Brooks**, and we were intrigued by his suggestion for the relief of one's cares in this troubled world—reading poetry by Dante and Walt Whitman. Has anyone a better suggestion? He also wrote: "I am still a mad gardener, though slowed down by rheumatism to being a very poor one. The same of pencils and pens, favorite tools. My digestion is good. I have a wise physician who says of food and drink, the more the better. . . . I keep up with the news, no mean boast these days, by reading the papers, not listening to the radio which I dislike no less than television. My papers are what they have been for years: New York Times, London Times, and Gloucester Daily Times. I read what going books I can, serious and light, mostly the last, and very few reviews. I choose these on the urging of friends, preferably young. Into the two bottomless wells of human understanding and the beauty of the world I dip often, and am never disappointed—the 'Divine Comedy' and 'Leaves of Grass.' I agree with Belloc that few things save laughter and the love of friends are worth striving for. And I understand well what Thoreau meant when he wished he was as wise as the day he was born."

Our circular letter in July brought forth several other letters, one of them from **Irenée duPont**: "Have just been reading The Technology Review, and, like most busy people, I find it difficult really to do anything worthwhile toward helping the problem. However, perhaps I am too pessimistic, as exemplified by 50 years of absenteeism. . . . Another thing, I haven't got much to talk about, let alone reduce to writing. . . . Perhaps the most outstanding piece of news would be that last fall I definitely retired from the Du Pont Company. Probably all the members of the class are more or less in the same condition."

A letter from George Wadleigh contained colorful reminiscences of 'The

Cape': "I'll go back about 70 years, when I was a boy on The Cape, and tie it in a bit to the present. At that time parts of two or three summers were spent at Woods Hole and Hyannisport, with forays to other Cape points: Provincetown, Wellfleet and Barnstable. The N.Y., N.H. & H. then ran to Provincetown, then known as the Old Colony. There were a half dozen fairly hard, short streets in the larger villages; otherwise 'roads' consisted of tracks in the sandy soil. When the sand got too deep, one simply moved the road over 20 feet. No cars, of course, and vehicles required two horses, no shoes. . . . The whole Cape, outside of villages, could be bought for two or three dollars an acre.

"Standing on any South Shore beach, eight or ten vessels passing through the sounds could be observed at any hour. Coal barges from Philadelphia and Perth Amboy, schooners with lumber in from Maine, and similar ones with cotton from Charleston and Savannah. One morning I remember seeing three small 'square riggers' going west. Inquiry disclosed them [to be] the rescue vessels of the Greeley Arctic expedition, under command of Captain, later Admiral, Schleg of Santiago fame. Present traffic on Vineyard and Nantucket sounds is practically nonexistent, with the exception of an occasional yacht and the ferry to the two islands.

"Now for a jump of perhaps 40 or 50 years to a '97 reunion at East Bay Lodge, with **Charlie Bradlee** presiding; then another jump to our 50th, with **Harry Worcester** presiding and Irenée introducing our duly elected mascot singer for the occasion."

Our letter also produced the following answer from **Ezekiel C. Sargent**: "As you probably remember I did not graduate from M.I.T. with the Class of '97. I left M.I.T. in the latter part of the year '97, as it was evident that I would not receive a degree without repeating my fourth year French. This I did not care to do, so I resigned and entered the employ of the City of Quincy as the city was about to construct a sewage system. . . . I stayed with the city a few years, became city engineer and later commissioner of Public Works. I purchased from the heir of the former city engineer, the business which he had established before he died very suddenly, with two uncompleted state highway contracts on his hands. I therefore became a road contractor for some years, building highways for the state and some cities and towns.

"In 1910 I married a Quincy young lady and in 1911 we purchased a new house at 147 Putnam Street, Quincy, in which I now live. . . . My wife passed away in 1950. We had three children; a son who graduated from the United States Naval Academy, entered the service of the United States and died a few years ago with the rank of rear admiral. My oldest daughter married a Braintree young man and they moved West where she passed away in childbirth. My youngest daughter also married a Braintree young man, and they have three children and at present are living in Braintree.

"My health appears to be quite good, and I hope to spend my remaining years

in Quincy."—**John P. Ilsley**, Secretary-Treasurer, 26 Columbine Road, Milton 87, Mass.; **Jere R. Daniell**, Assistant Secretary, R.F.D., West Franklin, N.H.

'98

Present to represent the class at the Alumni Day luncheon on June 12, 1961 were the following classmates: Fred B. Dawes, Daniel W. Edgerly, Frederic A. Jones, Carl S. High and Edward S. Chapin; and as guest Marion L. Chapin. The wife of our former secretary, Professor **Arthur A. Blanchard**, in spite of her expressed wish, was unable to attend the Luncheon. Our honorary member, **Dean George R. Harrison**, was unable to attend for the very sufficient reason that he was obliged to fly to New York on Friday, June 9, en route to Brazil, to represent the Ford Foundation in a study of the universities of Brazil. We shall look forward with great interest to this important report. Our distinguished classmate, **Roger W. Babson**, kindly wrote us expressing regret and giving a valid reason why he could not attend, and sending "love to all." Thanks, Roger.

It will be noted that our energetic president, **Daniel W. Edgerly**, came all the way from Chicago to attend this get-together; and that **Carl High** came all the way from Sarasota, Fla. It was good to see those who came to the luncheon, especially those who came from a distance. . . . We had a grand time reminiscing and, of course, foremost among our conversation were three very important subjects: first, the Second Century Fund; second, the M.I.T. 100th Anniversary Meetings; and, third, the 65th Reunion of the Class of '98, which will occur in 1963. The Second Century Fund and the M.I.T. 100th Anniversary Meetings have been well covered in the May, June, and July issues of The Technology Review which will well repay rereading. And, by the way, if you have mislaid your copies, do not hesitate to write to us as we may be able to find extra copies for you to peruse. . . . And then the 65th Anniversary! Although it is still two years in the offing, it will be here before you know it. So begin to prepare. You will hear more about the reunion from the officers, but it is "all together" to make it the wonderful event we all expect.

The roster of the class addresses as of April 1, 1961, appears to have satisfied everybody. So far so good. We were thankful to receive one correction—a card from Louis P. Poutasse: "Just to keep the record straight, my wife's permanent address is 227 20th Avenue, S.E., St. Petersburg 5, Fla. We moved here in October, '60." Kindly all correct your list; and thank you very much, Louis. . . . Our genial and dynamic president, shortly after Alumni Day, '61 sent to the class, Letter Number 26. By a happy coincidence, the secretary's copy arrived on July 4. We quote in part a paragraph about a classmate, **Lester D. Gardner**, whom we all respected, admired, and loved: "Lester Gardner left a legacy to M.I.T. to provide a yearly lecture on avi-

ation. In the June Technology Review (p. 29), this is noted as the third annual lecture on aviation history. An old friend, General Doolittle, gave an interesting presentation of 'Only Yesterday in Aviation.' So, a salute to Lester for his keen publicity projects, of which we had a number while he was with us."

After a kind puff to the secretaries, which both greatly appreciated, and an appeal to classmates to help keep the "pot-a-boiling," and the usual helpful statistics and necrology, Dan paid a fitting tribute to our classmate, **Karl W. Waterson**. Karl was so well known by M.I.T. men and officials, and by many who are not M.I.T. graduates but are prominent in business and read The Technology Review, that we will include the entire tribute in the '98 Class Notes: "Karl W. Waterson, at the time of his retirement in 1941, was a vice-president of the American Telephone and Telegraph Company; also a director of Bell Telephone Laboratories. He spent his entire business period of 43 years with this company. The following lists a few of the highlights of a notable career to indicate the range of his activities. In June, 1898, he graduated in the Electrical Engineering Course. At that time Electrical Engineering was in its infancy and just beginning on its way to developments and uses of the later years. He immediately joined the Bell Telephone System in Boston. His engineering work was so successful that in 1905 he was transferred to the New York headquarters and placed in charge of the Central Office of Traffic Engineering. From 1909 to 1919 he undertook the vast job of improving and standardizing traffic operations. During this period it should be noted that during World War I Karl was representative for the Bell System in Washington on telephone facilities required by the army and the navy. In 1927 he was appointed assistant vice-president in charge of Plant Operations, Traffic and General Operating Results. This covered all kinds of problems. It required executive management ability, which had been evident from his first association with the company, and especially engineering knowledge of the type required for the telephone industry. The telephone system was rapidly growing in size and complexity, so increasing departmentalization was necessary. Karl, through his ability, was appointed to high offices and assumed responsibility for phases other than strictly engineering. His last assignment before retiring was in 1937, when he was in charge of the Personnel Relations Section with its many questions in maintaining and improving the good personnel relations which have existed generally throughout the Bell System.

"The tribute paid to Karl on his retirement by the Information Department of the Bell System is here quoted in part. It is a most interesting summation: 'A notable career was concluded when Vice-president Karl W. Waterson retired from the service to which he had made outstanding contributions. For many years Mr. Waterson had a leading part in the development of standard Bell System methods, especially in the field of traffic operations. His accomplishments in no

small measure helped to pave the way to modern telephone service. It is impossible to look at telephone services and not discern the influence of Mr. Waterson's leadership and judgment.' In 1958 he moved from Summit, N. J. to Chelsea, Vt., which was his birthplace. He died January 24, 1961. His wife survives, also a son in the medical profession, a daughter married to a college professor. So to Karl: *Ave Atque Vale.*"

In a recent issue of the Boston Morning Herald was contained the following interesting information concerning the Yankee Atomic Electric Company: "Final costs for New England's first atomic electric project will run about \$13,000,000 below the estimates, it was revealed by William Webster, '23, President of Yankee Atomic Electric Company, at a meeting here of the New England Conference of Public Utility Commissioners. Webster, who is also president of New England Electric System, reported that the final capital requirements for the Yankee project at Rowe, Mass., will be about \$43,700,000, compared to the \$57,000,000 estimated at the time financing arrangements were set up. Yankee capitalization based on the lower than anticipated costs will be \$15,330,000 in bonds, \$13,031,000 short-term bank notes and \$15,330,000 in common stock. The common stock is all owned by the participating companies. Webster told the utility commissioners that the Yankee plant 'has not only performed satisfactorily but somewhat better than had been expected.' So far the atomic electric project has turned out over 400,000,000 kilowatt hours of electricity, or about 4 per cent of the normal electric load in New England." It will be remembered that at a meeting of the M.I.T. Club of Boston, on April 20, this company was first described, as was noted in the July Technology Review, '98 Class Notes, Column 2, lines 23-40.

Our classmate, **Roger W. Babson**, is still active, as will appear from the following clipping from the Newsweek of August 26, which we have received through the courtesy of our president, Daniel W. Edgerly: "Gloucester, Mass. Roger W. Babson, the business analyst and educator who built a worldwide reputation as an investment analyst in the wild bull market of the '20's and clinched it by calling the Wall Street crash a month before the bubble burst, is 86 and going strong. Up at 6 and to bed at 11, he puts in a full day writing a widely syndicated business column, reading, and indulging in his favorite hobby—talking. White-haired and with matching goatee, Babson spends his summers in a rambling white house in this waterfront town where he was born. (He invited Khrushchev to drop in for a chat last year, but the Soviet Premier never showed.) During the winter he and his second wife, Nona, live in a medium-size brown house in Wellesley, site of the Babson Institute of Business Administration which he founded in 1919. A branch of the college is located at a 'bomb-proof' (by 1946 standards) campus he built that year near Eureka, Kansas. Though he does not expect any crash in the foreseeable future, Babson still frets

about the stock market: 'Expect the unexpected.' —**Edward S. Chapin**, Secretary, 2 Gregory Street, Marblehead, Mass.; **Frederic A. Jones**, Assistant Secretary, 265 Chestnut Hill Avenue, Brighton 35, Mass.

'99

Through the courtesy of **Carroll W. Brown** of Rye Beach, N.Y., a close friend and associate of **John B. Ferguson** of Hagerstown, Md., I learned of John's death on May 2. Enclosed with the letter were a number of clippings, from which I have extracted the following information. After being graduated from M.I.T. in civil engineering, John became division engineer for the Chicago, Burlington and Quincy Railroad. Later he was with the Pennsylvania Railroad as assistant superintendent, and later railway engineer for the Ohio Electric Railway. In 1909 he established the firm of J. B. Ferguson and Company. By 1920 the firm was engaged in survey work, design appraisals, development and construction of various projects. During World War I, the firm was supervising engineer of five service camps, all on the Virginia peninsula. In 1919-1921, the firm was manager of the Hagerstown Home Corporation, and during World War II it was architect-engineer for the Richmond Army Airfield. John was president of the Hagerstown Chamber of Commerce during 1930-1939. He served as Hagerstown's city engineer from 1914-1926, county surveyor 1916-1930, chief engineer of the Sewage Commission, member Maryland Geological Survey Commission 1923-1924.

Dudley M. Pray died on April 26. Through the courtesy of a nephew, I have obtained the following details in regard to his life. For a number of years he was a manufacturer of plant food. During World War I, he was in the United States Navy and was later active in the Naval Reserve and the Massachusetts Naval Militia. He was a trustee of the South Boston Savings Bank, a member of St. Paul's Masonic Lodge, the Boston Youth Club, and commodore of the Puritan Canoe Club. For some years he instructed Sea Scouts in the handling of small boats. . . . **James B. Ellery**, whose passing was recorded in the July issue, had three daughters but no sons, so the name Ellery will cease with him.

I received notice that Miss **Christina H. Garrett**, Course IV, formerly of Oxford, England, has not been heard from for a long time and has presumably passed away. If anyone has any information concerning her, please contact me.—**Burt R. Rickards**, Secretary, 349 West Emerson Street, Melrose 76, Mass.; **Percy W. Witherell**, Assistant Secretary, 84 Prince Street, Jamaica Plain, Mass.

'00

The class was represented on Alumni Day last June, as usual, by the faithful few, including: Stanley Fitch, Alek and

Alice Newhall, Minnie Lawley, Herbert Stearns, Percy Ziegler and the secretary. We were seated together at the luncheon and so celebrated our 61st reunion.

Although it is four months since our last issue of Class Notes, we have but two deaths to record. **John L. Dakin** died on May 7, 1961. He was born in Roxbury and attended the Boston English High School with several of our classmates. At English High he was captain of the baseball team and was all-scholastic tackle on the football team. He was graduated in 1895. He was with us at M.I.T. for only a short time and then attended Pratt Institute from which he was graduated in 1900. He went to Haverhill in 1902 as teacher-coach at Haverhill High and continued in that capacity until 1908 during which time his football team won 48 games, tied 6 and lost only 11. He taught in the Haverhill public schools for 41 years and retired in 1945. Besides his wife, Ruth (Merrill) Dakin, John leaves a daughter, Mrs. Janet Rowell of Wilmington, Del., and three grandchildren. . . . **Franklin N. Conant** died August 8, 1961, aged 88 years. He was born in Orford, N. H., and was with our class all four years; he was graduated in 1900 in electrical engineering. He was with Chase-Shawmut Company, Stone and Webster, and later was an independent consulting engineer. . . . Although he wasn't affiliated with the Class of 1901, we wish to mention here the death of the Reverend George A. Hall who entered M.I.T. with us. He was with us all four years but took the five-year course and was graduated in 1901.—**Elbert G. Allen**, Secretary, 11 Richfield Road, West Newton 65, Mass.

'02

Early in May **Dan Patch** gave a lecture in the Boston Public Library to a group of old people, the Never Too Late Group. It was an illustrated talk about Friendship, Maine, the summer home town of Dan, and was entitled "Maine Through the Seasons." He received a very appreciative letter of thanks from the leader of the group. Later in the month on Military Day at the Institute, he had the pleasure of presenting the Sons of the American Revolution awards to the outstanding member of each of the three branches of the R.O.T.C. As Dan is a veteran of the Spanish war, as well as a member of the S.A.R., it was very fitting that he should make the presentations. . . . Professor **Charles H. Porter** is still active, spending his summers at Tamworth, N.H., and his winters in Tryon, N.C. . . . A letter from **Carlton B. Allen** reports that he is in the best of health and that he and Mrs. Allen expect to vacation in the Virgin Islands this fall. His two grandchildren graduated from college last June, one from Bucknell and the other from Skidmore.

As it seems fit that we should rejoice in the achievements of our sons, we record that the sons of **Ernest MacNaughton** are playing a prominent part in the business life of Hawaii. As reported in "Newsweek," the firm Castle and Cooke, known

as one of the Big Five which formerly dominated the Hawaiian economy, has been girding its loins to meet the competition of new mainland money. Last May the company took over complete control of Oregon's Columbia River Packers Association (Bumble Bee Sea Foods) and the Dole Corporation, the Number 1 firm in the pineapple business: the combined sales of the two were \$120,000,000 last year. Credit for engineering this colossal merger is given to Malcolm MacNaughton, president of Castle and Cooke for the last two years. Malcolm MacNaughton is the son of our classmate, Ernest MacNaughton. He received his education at Reed College, Portland, Ore., and at the Stanford University Business School. He went to the islands in 1945 when Castle and Cooke transferred him from their San Francisco office as assistant secretary. His brother Boyd is also in Hawaii as president of Brewer and Company, another of the Big Five.

Roger Greeley's son, Dana MacLean Greeley, was elected in May to serve as the head of a merger of a different type; he became the president of the newly formed Unitarian-Universalist Association. His brother, Roland B. Greeley, professor of regional planning on the M.I.T. faculty and for the last two years chairman of the Faculty Advisers Council, has been named to succeed Professor Thresher as Director of Admissions at the Institute. . . . Alumni Day exercises drew a very small attendance from our class. **Arthur and Mrs. Collier, Dan Patch** and your secretary were all that registered.—**Burton G. Philbrick**, Secretary, 18 Ocean Avenue, Salem, Mass.

'03

The Summer Period that provided our yet energetic and enthusiastic classmates with abundant relaxation has now closed. Once more your Secretary must co-ordinate the happenings of the interval and correlate such to interest our Course members and awaken old friendships. It is also quite opportune at this time to request more co-operation from our members with news of interest to enliven our column. . . . **John J. Dooley**, VI, who with his energetic wife attended our recent Commencement, now reports on their Golden Wedding Celebration in June. They had just returned from spending the winter with their daughter, who lives in Kailua, Hawaii, and a month's visit with their son living in Oakland, Calif. Another daughter lives in Ramsey, N.J. The Dooleys are now progenitors of seven vigorous grandchildren.

Our brief notice of the death of **Herman J. Cass**, II, in the July Review can now be expanded from an article in the Andover newspaper. He was born in Manchester, N.H., in 1880, but in his youth changed to North Andover where he was educated and spent his professional career for over 75 years. Only in recent months he changed his residence to Andover, Mass., after a brief retirement as sales representative of Keystone Lubrication Co., of Philadelphia, Pa. He died

after a brief illness at the Shady Knoll Nursing Home, North Andover, on April 11, 1961. He was a member of the Trinity Congregational Church; Grecian Lodge A.F. and A.M.; Mt. Sinai Chapter Lawrence Council; Bethany Commandry 17; Knights Templars and Aleppo Temple, Boston. He leaves his wife, Margaret J. (Gallagher) Cass; a son, Herman Jr., of Baltimore, Md.; two daughters, Mrs. Verna B. Watt of Andover, and Dorothy B., wife of Frank P. Desmond of South Easton; eight grandchildren, also five great-grandchildren.

Dr. Durward Copeland, III, 81, died at Monserrat, Bolivia, where he had lived for some years, according to word from his relatives in Framingham, Mass. After graduation from M.I.T., he taught as Professor of Metallurgy at Michigan University School of Mining. Later he was instructor for six years at the Mining School in Missouri. He next went to Santiago, Chile, in connection with silver and tin mines. He returned to become Director of the Missouri Mining School but the urge to return to South America led him to Bolivia and Chile again and he culminated his life's work June 6, 1961. He is survived by his wife; brother-in-law, a former Framingham selectman; sister-in-law, Mrs. Robert M. Copeland, and several nieces and nephews. Funeral service and burial took place in Bolivia.

A recent letter from our much esteemed classmate Professor Emeritus **Andrey A. Potter**, VI, is most noteworthy. His "guider"—the Sermon on the Mount—"Whoever shall compel thee to go one mile—go with him twain," accompanied him after retirement from Purdue University to be President of Bituminous Coal Research for the second mile. Now he is on his third mile, in good health and enjoying consulting contacts with industry and government. He is visiting professor at several universities. His present mileage affords him more time for voluntary services to our government and to engineering education; more leisure time for reading and reflecting and, best of all, opportunity to spend much of his time with his life's companion to whom he has been married happily for over 55 years. The university has presented him an office on the campus for all his files, books and reports, with its door open wide for all his former students and uppermost for our M.I.T. '03 classmates.

Miss **Myra Louise Davis** (Special, '03), one of the courageous co-eds of early M.I.T. membership, passed away suddenly February 14, 1961 and was buried at Bellevue Cemetery, Newburyport, Mass. Miss Davis had a unique scientific career. The Laselle Leaves of November, 1958, had an attractive picture of her before a hundred-year-old spinning wheel, which she was demonstrating at the Minute Man Crafts Fair in Horticultural Hall, Boston, in November, 1948. She became intrigued with the now lost art of weaving many years ago. A few hundred Merino sheep were brought to the U.S. by Colonel David Humphreys, a member of General Washington's Staff in the Diplomatic Service to Spain, for his farm in Danbury, Conn. He was Myra's ancestor, who started a lucrative wool business and

indirectly led her on this career. She related that her grandmother wove assiduously from the raising of the sheep, shearing and carding the wool for weaving like the frontier women. She therefore always wanted to continue this ancient craft and rounded off her education with two years at Laselle, 1895-97, majoring in Home Economics. She taught at the School of Handicrafts, Cambridge, and was weaving counsellor at Sargent Summer Camp. In 1924 she opened her studio on Fayette Street, Boston, where she remained 18 years. During 1927-37 she was manager for the Woolson House Industries for the Blind and wrote for Bernat's magazine Handicrafter. In 1939-40 she taught her art at Penland, N.C. She next introduced weaving at a new Craft Centre in Bluehill, Maine. In 1942 she moved her studio to 739 Boylston Street, Boston, where she remained to the end of her busy and charitable employment. She taught at the Perkins Institute and many schools for the blind about Boston. Her position in the world of handicraftsmen was convincingly brought forth in The Christian Science Monitor of March 24, 1941 under "Todays Women." —John J. A. Nolan, Secretary, 13 Linden Avenue, Somerville, Mass.; Augustus H. Eustis, Treasurer, 131 State Street, Boston, Mass.

'04

Here it is September and a gentle reminder comes from the class notes editor of The Review that notes are due for the November issue. The pathetic plea we made last May for a word or two on your summer activities brought just one card. This from Harry Rollins who reported another European trip with Glendora. Among other things they visited the famous caves in France, on the walls of which are many pre-historic paintings. The colors are bright and clear even after thousands of years. . . . A note from Fred Goldthwait, Class Secretary of '05, who makes his home, since retirement, in Center Sandwich, N.H., states that one of his summer neighbors is Ida W. Pritchett, daughter of Henry S. Pritchett, who was made M.I.T. president in our freshmen year and was adopted as a member of our class. Miss Pritchett remembers when a committee from our class called at the Pritchett residence on Bay State Road and presented her father with a loving cup. . . . The attendance of '04 members at Alumni Day in June was rather slim. The only ones who identified themselves were Mr. and Mrs. Frank Milliken, Arthur Smith, Bob Sosman and Tammy Rockwood. Your secretary and wife were also present.

That is about all the news we have except necrology which is more abundant than we wish it were. The Alumni Office reports that they can get no information regarding Charles H. Drew and Albert N. Morton, both Course II, and are listing them as "assumed deceased." If anyone knows anything definite please let me know. . . . Others who have joined the majority of our class in the great beyond are Harold M. Leh, II, who died in Phila-

delphia on April 28. . . . Hiram A. Hill, I, who died in Hurley, N.Y., on February 9. . . . Arthur C. Downes, V, who died in Lakewood, Ohio, February 11. . . . Lewis G. Gillett, III, who died in Santa Barbara, Cal., July 5. . . . James G. Metcalfe, I, who died at Louisville, Ky., July 11. A clipping from the Louisville Courier-Journal regarding Metcalfe states that he retired in 1952 as assistant general manager of transportation of the Louisville and Nashville Railroad. He started with this company when he was graduated from M.I.T. He served as a first lieutenant in an overseas railway battalion in World War I and was discharged as a captain.

Well that's it for now. If you are interested in these class notes help to keep them alive by sending a card now and then.—Carle R. Hayward, Secretary, Room 35-304, M.I.T., Cambridge; Eugene H. Russell, Jr., Treasurer, 82 Devonshire Street, Boston.

'05

It may be just another symptom of aging, but our 56th Reunion was coincidental with the general in-gathering at the luncheon and dinner on Alumni Day, June 12. The attendance, however, was very gratifying and the old '05 spirit rampant. Present at the dinner were Court and Elizabeth Babcock, Myron and Rose Helpert, Frank and Mae Chesterman, Leonard and Beatrice Cronkhite, Andy and Frances Fisher with grandsons Andrew Fisher, 4th, and Graham Hunter (Edith's son), Isadore and Sarah Nye, Art Balkam, Henry Buff, Harry Charlesworth, Bert Files, Gil Joslin, Hub Kenway, Bob McLean, Gib Tower, and Ruth and I. Andrew, 4th, had been admitted to the freshman class at Columbia. There were 25 at the luncheon. Any name omitted is unintentional. Someone will have to remind me and get special mention in another issue. Most of the above attended the dinner and the Babcocks, Chestermans, Helperts, Nyes, Goldthwaits and Harry Charlesworth attended the very fine Pops Concert in the evening. Considerable regrets were expressed that we were omitting a chummy reunion on Cape Cod. If someone (or several) regret sufficiently, we might try it again; otherwise future reunions will probably take the same form as this year's, with a real special in 1965.

How many have subscribed to and received the new Centennial Alumni Register? It contains a record of all who ever attended M.I.T. and is a tribute to the editors. If enough of those who did not get it wish, I will compile (probably multi-graph) a complete list of living '05 men with addresses. Probable cost, one buck. Looking through the register I note many interesting things. There are 90 living of those who got their S.B. with us. Counting those who walked up Rogers steps to register with '05 there are 161 living. I note that three '05 men got both a bachelor's and master's degree: Reverend S. Atmore Caine and Gilbert S. Tower in Naval Architecture and George Burrows in

Architecture. Does anyone ever hear from Burrows? In spite of the fact that we have for years carried his address in New Haven, we have never had any news from or regarding him. Or Ralph Whitcomb? Of at least a dozen personal letters addressed to him in London, none were ever returned (or answered).

Frank Longley apparently is in good health for he commutes from West Dennis, Mass. (summers) to Florida (winters). . . . Also from Florida comes word that Norman Lombard, II, is still president of the Institute of Applied Citizenship and very active in the work of the Joint Committee on Basic Citizenship at Fort Lauderdale, Fla. . . . Chet Shaw, VI, writes, also from Florida, "We live in an environment of aged people with many troubles, but are fortunate to have good health. Because the states became rigorous in requiring permits for our over-legal length trailers, we, seven years ago, bought a smaller one." Thus our "all-48-states traveler" has had to limit his scope to Florida to Abington, Mass., and all way stations.

Following my letter of sympathy to Mrs. Norman Chivers, I received a reply amplifying the brief account of his death in an earlier issue. Briefly this is it: Born April 18, 1882, Buffalo, N.Y.; died March 9, 1961. Graduated from University of Chicago, 1902. Lived in Philippines, 1906-1913, building Manila Railroad. Later with Lighthouse Service throughout the Islands. With Frederick Svare Corporation, construction engineers in N.Y., for 35 years. Projects worked on—the Submarine Base, Key West, Fla., Number 4 Dry Dock, Navy Yard, Norfolk, Va., Marine Parkway Bridge connecting Rockaway, L.I., to Brooklyn, several coffer dams on the Chesapeake Bay Bridge at Annapolis. Family retired to DeBary, Fla., in 1956. Had three married daughters. . . . Answering a few prods, Walter B. Cain, XIII, has come across with a letter, which he claims will prove uninteresting to the men he knew at M.I.T. Nevertheless, because it tells of his business connections, I am quoting briefly: "I put in 30 years as production manager, 10 with the Baird Machine Company in Bridgeport, and 20 here at the Whitin Machine Works, and never had any high ambitions, held no public office nor performed any outstanding public service—just a very ordinary member of the community. I have always enjoyed excellent health, have been very happily married for 53 years and have a daughter with two grandsons three houses up the street. I detest social gatherings such as teas, dinners and receptions as I am such a poor mixer that I always have a miserable time and much prefer my secluded life centered almost entirely on family affairs. Since retiring in '45, I have enjoyed the last 16 years more than any other period of my life and have developed the art of idleness to the point where I can make a ten-minute job last all day and when it is over you would scarcely know I'd done it at all."

Ben Lindsly is back in Falls Church, Va. (300 Poplar Drive). His letter takes us back 60 years and I quote: "Speaking of Willard Simpson, wasn't that a fine let-

ter of his in the April Review! His reference to that '05 football team naturally caught my eye. He played right tackle, and I played left. It was that way in both the '04 and '06 games. In the latter game, facing me was Billy Williams; he was heavy, and 'chunky,' but despite this physique, he was fast as greased lightning—we matched each other quite evenly—no particular gains worthy of mention on either side. However on one particular play, when the quarterback signaled for left tackle (me) around right end, I had my misgivings, and they were justified—Billy had me pinned with both arms around my knees before I had even touched the ball. Umpires are apt to miss fouls of that nature in the midst of a scrimmage, and my protests were of no avail. When spring rolled around, I soon discovered that Billy and I were both on the track team (of which I was captain during our senior year). My particular event was the hammer-throw, and in dual meets, I could usually squeeze out a few points in the shot-put, and the running broad jump, whereas Billy Williams was always dependable for points in the 100 and 220-yard dashes; after that we became good friends again. Speaking of friends, if you have gone this far, you are cautioned now to hold firmly to your seat before reading further. Willard's mention of **Harry Tyler** recalls to me that there were many debates on Rogers steps as to whether there were hidden horns beneath that generous shock of hair. The answer is no, a thousand times. In later years of my so-called 'career,' we came to Washington, and have lived in the area for at least 20 years. During that time, I have attended many Tech gatherings, have taken the opportunity to speak to him, and on all occasions, he has been friendly and agreeable, and I know that he was pleased to have me talk with him. He was in complete contrast to our undergraduate ideas, no horns whatsoever." . . . **Phil Hinkley** writes that **Robert K. Clark**, II, and his wife visited him during the summer of 1960. That's all. Quite an effusion for Phil, as I have previously seen his handwriting only on checks for class dues. Keep writing them Phil. . . . **Andy Fisher** sent a clipping from a Falmouth paper of June 16 stating that Captain **Prince Crowell** purchased a 21-foot catboat to replace his former champion racer lost in the last hurricane and has probably had a busy summer beating the best.

In the four months since last writing death has taken four of our classmates—**George Fuller**, I, **William Peet Bixby**, II, **Burton E. Geckler**, IV, and **John Ayer**, I. Little data was obtainable on Fuller. He died in a Rochester Hospital on April 23, 1961. He is survived by two unmarried sisters. Letters from George during the last two years indicated several hospital trips. Bill Bixby I knew very well. We commuted daily, met at the North Station mornings and walked (think of that) up over Beacon Hill, across the Common and through the Public Gardens to Rogers. We, with several others met in Walker basement at noon, pulled our tin lunch boxes out of our green flannel bags and lunched together. . . . I quote from a clipping from a Woburn paper: "Wil-

liam Peet Bixby, 77, of 17 Collier Avenue, North Scituate, died Tuesday, July 11, 1961 at the Osteopathic Hospital, Boston, of heart failure. Born in Warren, Mr. Bixby was brought up in Woburn. A 1905 graduate of Massachusetts Institute of Technology, he was an electrical and mechanical engineer. In his youth he worked on the construction of the Panama Canal. He was plant engineer for RCA in Pennsylvania when he retired several years ago. He moved to Scituate upon retiring. Besides his wife, Mrs. Gertrude (Place) Bixby, he is survived by two daughters, Mrs. Patricia Ellis of Boston and Mrs. Joan Leigh of Forrest Hills, N. Y., and a sister, Mrs. Laurence Seigfreid of New York." . . . From the Springfield, Mass., Union, I quote: "Burton E. Geckler, 80, of 137 Warrenton Street, architect in this city for more than 50 years, died Monday, May 29, 1961, in Wesson Memorial Hospital. With the late John W. Donahue, with whom he was associated from 1905 to 1932, he designed many buildings in the Springfield Roman Catholic Diocese, including Our Lady of Hope Church and Holy Family Church in this city and Holy Cross Church in Holyoke and many parochial schools. He was the architect for the building known as '95 State Street.' Mr. Geckler was graduated from Orange High School, and received his degree in architectural engineering from Massachusetts Institute of Technology in 1905. He was a member of the Orange Lodge of Masons, Knights Templar, Melha Temple of the Shrine, Mystic Shrine Consistory in Boston and was a 32nd degree Mason. Born in Orange, April 15, 1881, the son of the late Edward F. and Clare J. (Foskett) Geckler, he had lived in this city since 1905. He leaves his wife, Anna M. (Larose) Geckler; two sons, Vernon C. of Agawam and Roger of Connecticut; a stepson, Archie Benson; two stepdaughters, Mrs. Eleanor Somers and Mrs. Orise McNish, all of this city, and six grandchildren." . . . John Ayer, our vice-president, died at his home in West Medford. Ruth and I had journeyed to his farm in Maine for his 50th wedding anniversary in 1959. He seemed good for another ten or fifteen years, hale and hearty, and full of the joy of living. Later in 1960 he had a severe abdominal operation. I heard little of him until the sad news came via a newspaper announcement. I quote from that paper: "John Ayer, 79, of 22 Vernon Street, Medford, vice-president of Fay, Spofford and Thorndike, Inc., Boston consulting engineering firm, died at home August 31, 1961. He was graduated from Massachusetts Institute of Technology in 1905 and worked on a number of major engineering projects in Boston and New York. He was a member of the American Society of Civil Engineers; the Society of Terminal Engineers; the American Society of Port Authorities; the American Wood Preservers Association; and the Newcomen Society of America. He was a former director of the Lawrence Memorial Hospital in Medford and a former member of the Medford water and sewer commission. A member of the West Medford Congregational Church, he leaves his wife, Jose-

phine (Stevens); a son, John Ayer, Jr., of Denver, Colo.; and a daughter, Mrs. Mary Hall, of Boxford." . . . I have just learned through **Charlie Mayer** that **Vicente Molina**, I, died at Merida, Yucatan, Mexico on July 18, 1961. His son, Miguel, wrote Charlie as follows: "My father was an energetic and honest man. Besides his career as a civil engineer, he did several studies on the history of Yucatan culture and Mayan culture, which he loved with passion. He gave us, five sons, a complete education, since we are all professional graduates, and inspired in us the same spirit of work, honesty and moral principles that he learned and received from the Massachusetts Institute of Technology."

Changes of address: **Alfred H. Kelling**, V, to 1701 North Federal Highway, Ft. Lauderdale, Fla.; **Edward C. Smith**, V, to 1447 Clarence Avenue, Lakewood 7, Ohio.—**Fred W. Goldthwait**, Secretary-Treasurer, Center Sandwich, N. H.; **Gilbert S. Tower**, Assistant Secretary-Treasurer, 35 North Main Street, Cohasset, Mass.

'06

After the summer recess these first notes seem to me to be like our reunions and Alumni Days—a chance to shake hands, as it were and ask how's everything and everybody. So we hope you all had a pleasant summer whether here, there, or yonder, by car or plane or bus or boat, at the place in the hills or by the sea, or in your own backyard. If your summer was something unusual we'd like to hear about it, please.

Our 55th Reunion was unusual in one respect in that it was held on campus. After three months of writing and planning, the advance guard arrived on Saturday at Burton House lounge, some having checked in the night before at Endicott House or the 1200 Beacon Street Motel. Jim and **Guy Ruggles** stayed at Burton House; they claim they were very comfortable and were rather surprised, and pleased, to find when they checked out that it was free! For those who might be interested, I had toted in some of my collection—photo albums, the new '61 Register, a framed five-foot photo of the 1909 All-Technology Reunion, with '06 carrying Japanese parasols, reunion photographs, etc. Besides Jim and Guy as hosts and Marion as hostess, the Saturday group included T. Bartlett, Harry and Mary Fletcher, Gene Fogg, George Guernsey, Bob and Anne Rose. Ed Bartlett arrived in time to join the Fletchers and Roses and Rowes, Jim and Guy at Smith House for dinner that evening.

Sunday was the big day. When we arrived at Burton House at noon we found several groups busily chatting and the others soon appeared to join a group or look over the exhibits. At two we moved over to Smith House, 21 men and 15 wives, for the class dinner in a private room overlooking the river. At the end table the Chases, Jim, and the Rowes faced the two long tables seating the T. Bartletts, Ed Bartlett, Frank Benham,

the Coeys, Farleys, Fletchers, Kendalls, Andy Kerr, the Roses, Shermans, Taylors, Wares, Guy Ruggles and Cy Young. Corsages for the ladies and bouquets for the tables had been Marion's assignment and after a snifter, for those who wanted it, the filet mignons came on, but that didn't stop the stream of conversation. Next in order Jim made his short welcoming and thank you speech, Sherm reported on the Alumni Fund, and your secretary gave a few statistics. Andy Kerr told about his participation in the Spanish-American War, and the two Bartletts, that is T and E, regaled us with some interesting tales. Following the election of the present officers for another term, we gathered in front of Smith House for the numerous cameras to go to work.

Back at Burton House George Guernsey set up his screen and projector while we settled down for the show. George ran his nice collection of shots taken at previous reunions and alumni days, then Sherm followed suit and surprised us with slides copied from Techniques of our time showing the T rush and the shack back of the then Art Museum, Pierce and the Engineering Buildings. Another group of slides was unusual, shown by Bob Rose and taken on their yearly trips south; at first by sail and in recent years in a converted coast guard picket boat which Bob, with his Course XIII know-how, had remodelled for comfortable living afloat. After the pictures many lingered awhile, with goodbyes for the few who did not plan to stay for Alumni Day. On Monday the rest of us arrived on campus again, some to attend the symposium talks or departmental reunions or inspect the reactor, or just sit and talk. At noon we gathered under the canvas top for the luncheon, 29 of us including Walter Davol, Charles Kasson, and Jim Wick, up from Rockport with the '06 cane he has treasured these many years. We were pleased to have Guy Ruggles' sister Helen with us too. She still lives in their old home in Reading where Guy stayed awhile before returning to Phoenix. The head table doings, and occupants, have been duly recorded in The Review so suffice it to say that we—most of us—paid strict attention—most of the time—to those doings. In my notes I recorded Dr. Killian as having made pertinent quotes from two poems off the cuff, when he was given the clock that runs backward. What a memory! Fifteen stayed for the social hour, the banquet, and the Pops with Arthur Fiedler: the three Bartletts, Stew Coey, Fletchers, Hinckleys, Kendalls, Ruggles, Taylors, and Jim. So ended our 55th which seemed to be quite as enjoyable as previous ones judging by the numerous phone calls and notes of appreciation we have received, and for which we are deeply grateful.

Three couples didn't arrive who had expected to come: the Harold Beers from Atlanta, the Steve Kearneys from Lowell, and the Arthur Shermans from Washington. Mrs. Sherman was ill at the time. There were also seven singles in that category: Bill Abbott, Herb Ball, Max Coe, Henry Hubbell, Abe Lampie, Jack Norton, and Phil Stanley. Most of them have been regulars and we missed them.

We had also hoped to have with us two of the widows who had attended our reunions through the years—Agnes Coes and Vera Philbrick. Jim wrote to invite them, but they do not drive now and neither felt equal to coming—a real disappointment. Referring to the group pictures taken after the dinner at Smith House. . . . Bob Rose has sent me prints of his shots also an 8 x 10 enlargement in color of the whole group. Marion and I can testify that Bob did an excellent job in converting the "White Heron" for their long winters south as we were their guests the latter part of June on a day cruise from their Marblehead mooring to lay off the Eastern Point Yacht Club in Gloucester harbor for Anne's nice lunch, then a run back to home port. It was a real treat for two old salts. Bob is something of a poet too; he is the author of a classic that all "boaters" would enjoy, entitled "The Plaint of an Ancient Mariner." I'll give you the last of the seven verses: We steer from a sheltering pilot-house,/Pleasant to even a griper./'Tis comfortable beyond belief/Instead of tying a double reef/We start the windshield wiper./ There should be included here a reference to and record of, a most interesting, and perhaps valuable, gift from Andy Kerr for the Institute archives. It is a scrapbook containing nearly 70 pages of newspaper clippings, photos, drawings, etc., covering all the doings and personages at the time in 1916 when Tech moved from Boylston Street to Cambridge. Andy's inscription reads: "Story of M.I.T. moving to Cambridge—Assembled by my late wife Clara Bartlett Litchfield Kerr."

As reported in earlier notes Sherman and Bertha Chase were in London shortly before reunion, the occasion being the Jubilee Conference of the British Waterworks Association with the election of several honorary members, one of them being Mr. E. Sherman Chase. The citation covers in detail Sherman's career, which will be included in some future notes. Also in the news last May was a talk by Dr. Simeon C. Allen, V, before a meeting at Syracuse University of the Toronto-Syracuse Section of the Institute of Food Technologists. He described a new method of food preservation called "Baffle-Pak" which has recently been patented, Dr. Allen being the inventor. It "involves packaging of foods for subsequent preparation and sterilization without the use of canning, chemical preservation, or the use of radiation or dehydration. In addition, the prepared foods do not require frozen storage. All that is necessary to produce the original home-cooked quality and flavor is to dip the package into hot water." Fine for the survival shelter!

Through the Alumni Office we learned of the death on August 19 of Jerome Gabriel Harrison, probably in Philadelphia. He was born July 1, 1883 in Waco, Texas, and with a B.S. degree from Texas A & M he joined our class junior year as a graduate student in Course IV, but did not get his degree. A brief obituary in The N. Y. Times states that he had held positions in California, Chicago, and Milwaukee, but our first address was Dallas,

where he was an architect until he joined the Emergency Fleet Corps in Philadelphia as engineer during W.W.I. By or before 1925 he was a sales engineer with the John N. Gill Construction Company in Philadelphia and by 1935 architectural engineer with the Ballinger Company, architects and engineers. He became head of the Specifications Department by 1955. The obituary stated that he had helped design the Philadelphia Museum of Art. Surviving are a daughter, Mrs. Jay Bruce Collier, and three grandchildren. Harrison in our senior year had been a member of our Architectural Society but never had any interest in the class or Tech so far as our records show.

Change these addresses: Andrew Kerr, VII, to Box 242, Millway Street, Barnstable, Mass.; and Henry H. Nelson, II, to McKerley Nursing Home, 282 S. Main Street, Concord, N. H. With apologies for failure to acknowledge or answer more promptly some of the notes and letters received before and since reunion. —Edward B. Rowe, Secretary-Treasurer, 11 Cushing Road, Wellesley Hills 81, Mass.

'07

Alumni Day, on June 12, was a great disappointment to your secretary, as he had hoped to see many '07 men and gather news to make this edition of the Class Notes more interesting to all. President Donald and Mrs. Robbins, Gilbert and Mrs. Small, Louis Freedman, and Phil Walker and his wife made up the total 1907 attendance. We had been assigned a table with '08 at the luncheon, just in front of the head table so we could easily hear and see all that transpired. The same group, without the Smalls, attended the Alumni banquet in the evening and went to the Pops Concert. . . .

Bill Coffin had written that he expected to attend the noon luncheon but was not able to be present. . . . We especially missed Professor Hudson. Up to this year, he had a record of 100 percent for attendance on Alumni Day. Ralph remained at Ft. Myers beach to attend the wedding of a granddaughter. . . . Tom Gould also wrote me, explaining that he had to attend the graduation of two grandchildren from high school and two other grandchildren from the University of Maine, which would prevent his presence on Alumni Day. . . . I also had a short note from Charles E. Baker, Course XI, from East Point, Ga., who expressed his regrets for not being able to be at our Alumni gathering.

Many of the men on our mailing list should have received in May a brochure concerning a new book on "Metal Decorating from Start to Finishes," written by Carl Bragdon, Course X, which was to be published in October, 1961. I quote one paragraph: "The manuscript and illustrations have been prepared from materials originally gathered by a renowned and well-loved figure in metal decorating circles—Joe Esposito—who had been urged to write the story of the industry. He called in his friend and fellow-worker,

Charles R. Bragdon, as collaborator. When Mr. Esposito died, Mr. Bragdon carried on the project as a tribute to his memory, with the blessing of the National Metal Decorators' Association." . . . Under the date of August 11, 1961, the "Citizen," of Belmont, Mass., had an interesting article headed, "Dr. Chaffee Invents New Measuring Instrument." I quote: "Keyes Scientific Company of Cambridge announces that Dr. E. Leon Chaffee, of 130 Goden Street, has perfected an advanced scientific instrument, a flame photometer for use in qualitative and quantitative analyses. Dr. Chaffee is professor emeritus of physics at Harvard. In 1959 he was awarded the I.R.E. Medal of Honor by the Institute of Radio Engineers for 'outstanding research contributions and dedication to training for leadership in radio engineering.' Announcement of the new development to be known as the Chaffee-Keyes Flame Photometer, was made in this month's issue of 'Research Development.'" Many of us will recall Leon in Course VI, where he and **Lester Brock** did their theses together. After being graduated from M.I.T., he attended the Graduate School of Arts and Sciences at Harvard University, where he received the M.S. degree in physics in 1908 and the Ph.D. degree in physics in 1911. He was appointed instructor in electrical engineering at Harvard in 1911. He progressed to assistant professor of physics in 1917, associate professor in 1923, and professor in 1926. He was appointed Rumford Professor of Physics in 1940 and Gordon McKay Professor of Applied Physics in 1946. These last two appointments were continued as emeritus professorships after retirement in 1953. He was awarded the honorary degrees of Doctor of Science from Harvard in 1944 and doctor of engineering from Case Institute of Technology in 1955.

Late in June, I received a letter from Mrs. Mary K. Walker telling of the death of Major **Lawrence Tidd Walker**, U.S.A. retired, at Temple, N.H., on June 22, 1961. I wrote Mrs. Walker, expressing the sympathy of the class in the loss of her husband. I knew Lawrence the first two years at college very well; our names being the same, we were invariably together in the general courses. Lawrence took biology but was graduated with the 1908 Class. In 1909, he joined General John J. Pershing's staff and later served with the Coastal Artillery Corps, retiring in 1923. Since 1942, he has lived in Temple, N.H. . . . Another well-known architect, and an '07 man, has passed away. **Robert Tappan** was registered in our class while taking Course IV. His name was carried as a non-associate in our class files. He died at Centerville, Mass., on May 29, 1961. For several years he was associated with Ralph Adams Cram, of New York, then opened his own office and specialized in church design. He designed St. Thomas Church and the Cathedral of St. John the Divine in New York City.

Another non-associate member, **Thomas J. Holmes**, Course VI, is assumed to be deceased by the Alumni Register, as they have had no record of his activities or

do not know his address. . . . I have made a real effort to learn something about **Max Greenburg**, Course III, living in Tel-Aviv, Israel. For several years I corresponded regularly with Max; now, all my letters are returned unopened. . . . The Alumni Register has 'removed completely' the name of **Brother Emmanuel**, O.F.N., from its records. These indicated he attended '07 in Course III but must have given up mining activities to serve in a spiritual field.—**Phil Walker**, Secretary-Treasurer, 18 Summit St., Whitinsville; **Gardner S. Gould**, Assistant Secretary, 409 Highland St., Newtonville 60.

'08

The first dinner-meeting of the 1961-62 season will be held at the M.I.T. Faculty Club, Memorial Drive, Cambridge, on Wednesday, November 8 at 6 P.M. Remember that ladies are invited, and try to be with us. . . . Well, we had a reunion in June after all. It was held at the Melrose Inn in Harwichport on Cape Cod from June 9 to 11. This was our fifth visit to the Inn, so we felt right at home. While the weather was not too good, we all had a fine time. The following were on hand to celebrate our 53rd Reunion: Bunny Ames, Bill Booth, Jimmie Burch, Nick Carter, Les Ellis, Charlie Steese, Frank Towle, and Joe Wattles. We were favored in having as guests Mesdames Ames, Ellis, Steese, Towle, Belcher and Collins. Monday, June 12, was Alumni Day at Cambridge, with perfect June weather. The following attended the luncheon or banquet: Bill Booth, Jimmie Burch, Nick Carter, Fred Cole, Leo and Mrs. Loeb, Miles Sampson, Charlie and Mrs. Steese, Frank Towle, and Joe Wattles. At the cocktail hour "on the green" of Briggs Field, we had the pleasure of meeting many old friends of other classes. The Banquet in Rockwell Cage was especially fine, with fancy menus followed by the concert by the Boston Pops at Kresge Auditorium. A most fitting climax to our 53rd Reunion.

Mr. and Mrs. **Winch Heath** moved from Wellesley in August to make their home in Seattle, Wash., near their daughter and her family, the Charles M. Days. **Les and Helen Ellis**, while vacationing at the Wayside Inn in Chatham in August, entertained **George and Mildred Freethy** and **Harry and Amy Lord** at dinner before the band concert. . . . We are sorry to report the death of **George A. Quinlan** on April 8, 1961 at Evanston, Ill. He had been the first superintendent of highways of Cook County (Chicago), Ill. He was 80 years old, and a past Grand Quaestor of Sigma Chi.—**H. Leston Carter**, Secretary, 14 Roslyn Road, Waban 68, Mass.; **Leslie B. Ellis**, Assistant Secretary-Treasurer, 230 Melrose Street, Melrose 76.

'09

This is the second anniversary of our Fiftieth. How time does fly! As we stated in the July Review, the secretary and

Muriel where in Switzerland attending the meeting of the International Electrotechnical Commission in Interlaken so could not be present on Alumni Day. **Francis Loud**, VI, kindly agreed to take over and most of the following notes are due to him.

The following attended either the luncheon or the banquet, or both, on Alumni Day: George Bowers, I; John, II, and Margaret Davis; Tom Desmond, I; Leon Healy, V, and Mrs. Healy; Francis Loud, VI; Joe Parker, I; Ben Pepper, II; Gardiner Perry, VI; Art, I, and Betty Shaw; Laurence Shaw, V; Henry, II, and Madge Spencer; George, II, and Marcia Wallis. Alice Desmond was in Boston but was unable to attend the alumni events. Herbert Palmer's (VIII) name was on the Alumni Office registration list but was not seen at either the luncheon or banquet.

In the June Review we told of the world cruise being made by **Tom** and **Alice Desmond**, and in the July Review of the trip around Africa by **Ben** and **Barbara Pepper**. Francis asked both Ben and Tom to write some notes about their trips for future class notes, and we trust that we shall hear from them. . . . **Art Shaw** reported that **Hazel Gram** was moving from Levittown, Pa., to Florida. We will give more details later.

John Davis and Margaret stopped in to see **George Gray** (76 Pleasant Street, South Natick, Mass.) early in June and George asked for **Salvador Altamirano's** address having seen his statement in the May Review that he would like to hear from any classmates. Francis sent George the New York address of Alty's son. George wrote to him there expecting his letter to be forwarded and three days later received a reply from Alty who happened to be visiting his son again. Alty says that he gets to New York quite frequently to see his only son and three grandchildren. His Mexican address is as follows: Monte Elbruz 134 (Lomas), Mexico City (10), Mexico, "in case you happen to visit my country." Alty will be more than pleased to hear further from members of the class. . . . Francis received the following letter from **Lester King**, IV: "You may be interested in the following account of our memorable reunion with Fergie at Walla Walla, April 24-27, 1961. At the reunion in 1959 Louise and I enjoyed the good company of **Craig Ferguson** and we parted with the promise to look him up if we ever visited the West Coast. In April of this year the promise was fulfilled in another reunion, at Walla Walla, which lacked none of the red-carpet treatment of our 50th Reunion. If there was anything that Fergie did not do for us it wasn't his fault. His family, banking associates, and friends all joined in a three-day hospitality to us that made us sad to leave. He even heated his swimming pool and we have pictures to show us swimming there in April. The editor of the local paper interviewed us for a spread article in the Sunday edition. Harold Crawford, '12, took me to see the operation of a logging mill which interested me very much. Fergie wielded the magic wand everywhere! We understand this is typical of that locality. Our trip of just four weeks extended from the Mexico

border to Seattle and covered the coast with side trips to Yosemite and the eastern part of Washington. We varied travel by Hertz or Avis cars, train, and transportation by friends in Los Angeles, Carmel, San Francisco and Walla Walla. We enjoyed the ocean and the mountains and the vast agricultural valleys. It might never have occurred that way but for the beckoning of Fergie. We are very grateful."

Tom Desmond's secretary has advised us that Tom is the author of an article, "The Cruelest Frauds in America," appearing in the September, 1961 issue of "Popular Medicine Magazine."

We have received from the Alumni Office the notices of the deaths of two classmates, **John N. Brooks**, I, which occurred on June 5 at Trenton, N. J., and of **David P. Marvin**, XIII, which occurred in October, 1960 at San Diego, Calif. While at the Institute John's home address was also Trenton, and before entering the Institute he was a member of the class of '06 at Princeton University. At the Institute he was a member of the Civil Engineering Society and treasurer of the YMCA in his senior year. He performed his thesis with **Bion Bowman**. We have received practically no news from him since graduation and our records show that he spent most of his life in his native city of Trenton. . . . In earlier Reviews we have included news relative to **David Marvin**. He spent most of his life in the Coast Guard service, many years on active duty at sea. He rose to the rank of Lieutenant Commander. He spent at least two periods of a year or two at the Coast Guard Academy at New London, Conn. During World War II he held the office of Western Inspector at San Francisco and also was assigned to the Coast Guard Base at Alameda, Calif. He retired about 1947 and took up residence in Alamogordo, N.M. In 1956 he moved to San Diego. So far we have not learned of any survivors.—**Chester L. Dawes**, Secretary, Pierce Hall, Harvard University, Cambridge 38, Mass.; Assistant Secretaries: **George E. Wallis**, Wenham, Mass.; **Francis M. Loud**, 351 Commercial Street, Weymouth 88, Mass.

'10

Last July I received a letter from Mrs. **Stuart Henderson** telling of Stuart's death: "I am sure that you will have known his professional career. Stuart Llewellyn Henderson was born in Boston December 15, 1883. After his graduation from M.I.T. in 1910, he worked for Westinghouse Electric Corporation in East Pittsburgh and later in New York City, where he was director of engineering for the Eastern district. After his retirement in 1949, he continued to accept consultant work which kept him busy enough. At one time he was working for both the Italian and United States governments. Some tasks took him to European countries, which added to the traveling which we had enjoyed so much on our own. We built a summer home on Cape Cod at West Chatham in 1955, but in winter

lived in an Alexandria, Va., apartment just over the river from Washington. Three sons and a daughter, married and with children—one in the diplomatic service, an engineer with New Jersey Bell Telephone Company, one with the aircraft industry, and a daughter, a public-spirited housewife—gave him much satisfaction. The last two years were spent as a convalescent, which Stuart found difficult, but took patiently. Living as normally as we could, we did have some fun, enjoying California last winter with its gardens and flowers. He died on May 8 in Alexandria." . . . I have also received notices from the Alumni Association of the deaths of **Lawrence G. Rice** in July and **Cyrus N. White** on August 23, 1961.

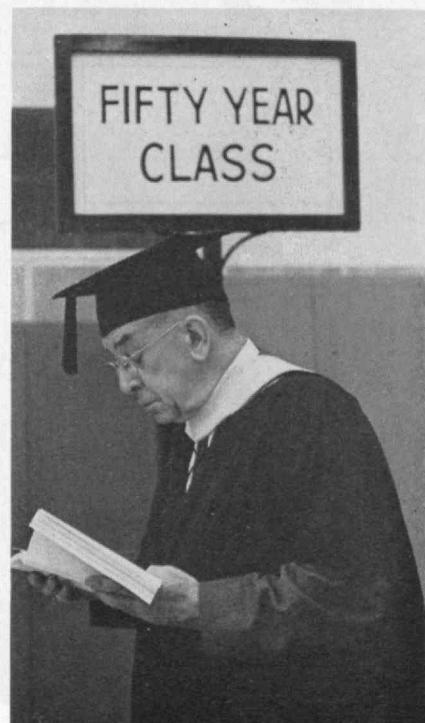
Shortly after the class notes for the July issue of The Review had been sent in I received a letter from **Carroll Benton**, as follows: "Wednesday (May 17) we had our next to last class luncheon of the season at the M.I.T. Club. We were able to round up only six as follows: Larry Hemmenway, Gordon Holbrook, John Holbrook, Henry Schleicher, George Magee, and yours truly. This, however, represents 60 per cent of the present possibilities among the (more or less) regulars. No longer can we count on **Al Hague** attending these luncheons regularly (as he always used to do) as he now spends his winters in Florida. . . . **Fred Dewey** is in Europe at the present time. . . . I understand that **Jim Tripp** and his wife are (or were recently) in the Hawaiian Islands with the possibility of continuing on around the world. . . . **George Magee** (and his wife Lois) returned recently from a two months' trip to Florida. Ann and I returned from a pleasant automobile trip to Florida the latter part of April. We were away about five weeks from about the middle of March to the latter part of April. The weather was exceptionally good both going and coming and while we were there we spent most of the time in Palm Beach. **Al** and Janet **Hague** spent a pleasant afternoon and evening with us at the apartment which we occupied in Palm Beach, coming up from their home in Pompano Beach. We are planning to go to my old home in New Hampshire for a short visit, probably in July and then on to Maine (Boothbay Harbor) for about a week and, then a slow trip home by way of the White Mountains and Vermont (while Ann and I have our health we never seem to tire of traveling by automobile)." Thanks for all the news, Carroll.

The attendance at the Alumni Day was just about that of those years preceding our 50th Reunion. Attending this year were Jack Babcock, Roy Briggs and wife, Bob Burnett and wife, Herb Cleverdon and wife, Art Curtis, Larry Hemmenway, Ralph Horne and wife, George Lunt, Hal Manson, Murray Mellish and wife and Walt Spalding. Walt had arrived in Boston June 8 from a trip around the world starting from Honolulu westward and he expected to be home some time in July. . . . I had the pleasure of a visit from **Allen Curtis** in July. He is now enjoying retirement in Gloucester, Mass.—**Herbert S. Cleverdon**, Secretary, 120 Tremont Street, Boston, Mass.

'11

The August issue of "Theleven" gives a detailed account of our 50th Reunion June 9 to 11 at Snow Inn, prepared by **Jim Duffy**, "Keeper of the Log." Enclosed with it is a replica of the group photo taken at Snow Inn, with a complete identification listing of classmates, wives and guests. Jim's "log" also tells of the events at Cambridge on Alumni Day, June 12, and of his planned trip, immediately following, to Hungary, Rumania, Bulgaria, and Jugoslavia. I received cards from Jim from these countries, and a final card from Chicago, dated August 30, on which he wrote, "Back in the land of the free again. This jet age is wonderful—breakfast in Paris, lunch in New York, dinner in Chicago." Jim's address, as of last May, is 6429 North Avenue, Oak Park, Ill.

The following telegram was received at Snow Inn from Class President Emeritus, **Don Stevens**: "Best wishes to all my classmates for a wonderful 50th Reunion. Health does not permit me to join you, but my thoughts are with you. Lois joins me in sending fondest regards." A letter from Lois in April had said they might possibly make it, and that they were hoping for some miracle to happen. . . . Notes were received from Johnny Scoville, IV, Fred Daniels, VI, Frank Smith, III, George Cowee, III, and David Gaillard, VI, who for various reasons were unable to be at the reunion. Scoville's wife had recently had an operation, and he had to see that she had the proper care. Smith cabled from Honolulu: "Would surely be with you if I were not so far away." . . . **Alec Yereance** sent me a news item from the Sunday Star, Washington, D.C., which told in great de-



Arthur H. Rooney, '11, looks over list of graduates on Commencement Day.

tail about the Christmas cards prepared by Gaillard's artist daughter-in-law Barbara, called "Babs."

I had a nice visit in August with Sallie Denison at her Wellsweep home in Cornish, Maine. I drove over from my camp on Lake Winnisquam, Sanbornton, N.H., where I spent most of the summer. I saw a lot of Lake Winnipesaukee on my way over and back. Sallie's daughter and family, who lived next door to her, have moved to Amherst, Mass., which separates Sallie from more of her loved ones. The following is from a letter I received from her: "My dear 1911'ers; you have no idea how much the telegram you sent to me during your 50th Reunion meant to me. I consider myself quite a stoic, but I was so deeply touched I wept. Thank you all from the bottom of my heart. I love you all. Sallie."

Marshall Comstock, VI, was at Pleasant Point, Maine, for the summer. His regular home is 9 Brooks Street, West Medford, Mass. . . . **Stuart Copeland, II**, alternates between Ellsworth, Maine, (P.O. Box 298), and Venice, Fla. (P.O. Box 236). . . . **George Forristall, II**, moved last June from 101 Harvard Street, to 147 Lowell Avenue, Newtonville 60, Mass. . . . **Harold Babbitt, XI**, is now a professor at the University of Roorke, Roorke U.P., India.

Roger Loud, VI, of Weymouth, Mass., died August 28, 1961, in Minneapolis, Minn., while visiting his son, Warren, a professor of mathematics at the University of Minnesota. He is also survived by another son, Alden, of Pleasant Ridge, Mich., and seven grandchildren. Roger had been troubled with a bad leg since October, 1960. He was in a nursing home for a while, then with son Alden for four months, and since April with son Warren.

He was with the Boston Edison Company for 38 years, 1915 to 1953, when he retired. He had previously had positions with the Old Colony Gas Company in East Braintree, the Nantucket Power and Light Company, and in Vinal Haven, Maine. His wife died in December, 1959. Warren is M.I.T. '42, Alden, M.I.T. '49. The foregoing information is from a letter from Warren. . . . **Sydney Alling, VI**, of Rochester, N.Y., died July 1, 1961. A clipping from the Rochester Times-Union states that he is survived by his wife Marion, his daughter Mrs. Robert Conway of Hampton, Va., his son Dr. David Alling of Bethesda, Md., and four grandchildren. I had a short note from David, telling about his father's death. . . . **Samuel Blum, VI**, of Boston, Mass., died June 12, 1961. . . . **Hall Sargent, II**, of Crescent City, Fla., died October 25, 1960. . . . **Earl R. Brown, II**, of Ventnor, N.J., died December 19, 1960. . . . **Waldemar Diaz, VI**, whose last known address was Argentina, is assumed to have passed away. No further details were received concerning these four.

If you haven't received a copy of "Thelevener" and the accompanying photo, write to **Oberlin Clark, 50 Leonard Street, North Weymouth 91, Mass.** — **Henry F. Dolliver, Secretary, 10 Bellevue Road, Belmont 78, Mass.**; **John A. Herlihy, Assistant Secretary and Treasurer, 588 Riverside Avenue, Medford 55, Mass.**

'12

Robert H. Woods, Jr., VI, has recently retired as manager of the Rural Electrical Service of the Duke Power Company at Charlotte, N.C. Bob is now at Asheville,

N.C., and may be addressed c/o Highlands Hospital. He would like to hear from members of the class. Mrs. Woods has taken an apartment in Asheville to be near him. Bob's daughter states that he is getting along well after his recent illness.

I am sorry not to have more news for our first issue, but I've been away on a fishing trip. . . . I am pleased to report, however, that **James A. Cook, 8 Trinity Road, Marblehead, Mass.**, has consented to serve as our 50th Reunion chairman. We are looking forward to a large turnout at the Snow Inn in Harwichport next June. Don't forget to send in items for the Class Notes.—**Frederick J. Shepard, Jr., 31 Chestnut Street, Boston, Mass.**

'13

Here we are again. This is the start of a new year of reporting for the Class of 1913. It is hoped that all of you buddies will devote more time to keeping your class secretary informed of your activities, thoughts, and future plans than you have in the past. Yes, the 48th Reunion has made history. Forty persons participated at various times from Friday, June 9 through June 12 in the festivities at Hotel-Motel 128 at Dedham, including the Thompsons (Charlie), the Brewsters, the Achards, the Gustins (with 6 of the next generation), the Carlsons, the Capens, the Cushings, the Shaws, the Browns (meaning the Als, also the Charlies), the Farwells, the Bonneys, the Cohens (the Josies), the Howies, the Eichorns, Charlotte Sage, and as always Fred Lane. Everyone appeared to have enjoyed this off-course reunion with good accommodations, good food, and splendid spirits (whether you did or you didn't). The get-together and the Class Dinner were spirited to say the least, highlighted by the music of Phil's accordion player, Eddie Crisile, and considerable "horseplay" by two of your staid and serious classmates. Each lady received a boutonniere. A contest was conducted, using the class pictures of our 45th Reunion and interim reunions at Oyster Harbors and the Coonamessett Inn, to see who could identify the most persons. The Cushings were the winners for Oyster Harbors, while the Thompsons won the prize for guessing those present at Coonamessett. The balance of the evening and Sunday morning was spent enjoying the company and friendship of us '13'ers. The usual class meeting was typical and enthusiastic and several important matters were discussed and decided: (1) That the annual dues shall be \$2 per year (bills have been sent out as voted); (2) That the secretary should contact the management at Oyster Harbors Club and definitely engage accommodations for the 50th Reunion in June, 1963 (these instructions have been carried out. Both your president and secretary have conferred with Mr. Church, and the Club has been reserved for 1913 and possibly the Class of 1916, who may enjoy the space not occupied by 1913—so make your reservations early); (3) That the Class History shall be brief and



Members of 1911, the Fifty Year Class, as they gathered on Alumni Day at Kresge with their wives: from left to right are, Oberlin and Mrs. Clark, Livingston Ferris, John Herlihy, Mrs. Ferris, Mrs. O. W. Stewart, and Henry F. Dolliver.



Members of the Class of '13 and their wives at the celebration of their 48th Reunion at Hotel-Motel 128, Dedham.

shall be read by **Gus Gustin** and copies ordered from Lester if desired; (4) The Reunion committee was given a very splendid vote of "Thanks" for a very pleasant and successful 48th Reunion.

Alumni Day, as always, was a day to be remembered by all who attended; 1913 was represented by Charlotte Sage, Phil Terry, the Eichorns, the Gliddens, the Thompsons, the Gustins, the Brewsters, the Muthers, and the Capens. The concert by the Boston Pops under the able leadership of Arthur Fiedler was greatly appreciated by all who adjourned to Kresge Auditorium. . . . Now, on to the next important date for all '13'ers, that great big show, the 50th Reunion at the Oyster Harbors Club and the Institute, Friday, June 7, through Monday, June 10, 1963. While on the subject of our 50th Reunion, your President **Charlie Thompson** wishes to announce that **George Philip Capen** will be chairman of the Reunion Committee. Plans have already started and through this medium and other forms of publicity, you will be kept informed. Any suggestions for the fulfillment of a successful reunion will be greatly appreciated by the Committee. **Bob Weeks**, **Lee Parsons**, and **George Dempsey** are just a few of many who have assured us that they will be present at the 50th.

Bill Mattson certainly wins the prize as the class's best and most regular correspondent, first with his greeting telegram received at the reunion and read by the classmates at our Reunion Dinner, then by his several letters bearing on subjects uppermost in the minds of all of us, namely; the 50th Reunion, the 1913 Alumni Class Fund to be presented to the Institute in 1963, and the welfare of his classmates. We quote in part: "The picture (the class picture) is 'swell,' and I had no trouble recognizing our classmates, all of whom had attended previous reunions. . . . I agree that Oyster Harbors is the place and the class voted thus at our 45th and 48th. . . . Let's keep in touch with each other and work together for our 50th and the 1963 Class Gift." **Larry Hart** wins the second prize. He has furnished your scribe with many notes

about classmates. He retired at 65 from Johns-Manville, but sought other outlets for his energy and "know-how." So now, at 70 years, just retired from Junior Achievement, Inc., as executive president, he will continue as a consultant. We all missed Larry and Arry at our last reunion, but due to other commitments, they were unable to be present. . . . We were very happy to receive a letter from Leah and **Herbert Shaw** stating that they enjoyed the reunion and would see us in two years. Herbert bought nine old watches and quite a large collection of antique watch keys on a trip to the Cape after they left the reunion. If any of you classmates have any old clocks or watches in your archives, we know that Herbert would appreciate repairing them and adding them to his collection, at 210 Church Street, West Haven 16, Conn.

It is with a very heavy feeling that we are the bearers of sad news. **John Parks Coe** of Woodbridge, Conn., died June 23, 1961 and was buried in Woodbridge on June 28. John was born in Rock Falls, Ill., 71 years ago. He attended the University of Kansas and Washburn College, and was at M.I.T. with the Class of 1913. He entered the employ of the United States Rubber Company, serving as a chemist, and then over the years as factory manager, general sales manager, and general manager of the chemical plant at Naugatuck, Conn. He was elected a vice-president of the U.S. Rubber Company in 1945 and retired in 1954, when he was elected chairman of the board of the Texas-U.S. Chemical Development Association as the outstanding chemist of the year, and Washburn College conferred an honorary degree in Science on him. To his son, Willis Coe, and daughter, Mrs. Theodore Glasson, we of 1913 extend our most heart-felt sympathy. . . . A letter was received from Dr. **Fred Lane** stating that he regretted the necessity of having to return home just after he had arrived at the 48th Reunion on account of the serious illness of his brother. When he arrived home, he was notified of the death of his dear brother in Fort Lauderdale, Fla. We of the class offer our greatest sympathy to you, Fred.

It is gratifying to receive an appreciative letter from our **Charlotte Sage**. Thank you, Charlotte; you are as of this time appointed to serve on our 50th Reunion Committee. . . . We lament to notify the members of our class that **Franklin A. Reece** passed away on July 12, 1961. Reece was a native of Brookline, Mass., and was graduated from Noble and Greenough School and Harvard College. He received a mechanical engineering degree from M.I.T. He was president and also chairman of the board of the Reece Corporation in Waltham, Mass., and was cited by the National Association of Manufacturers for distinguished achievement in the fields of science and invention. He was also a former director of the New England Trust Company. As a golf and shooting enthusiast, Franklin was a member of The Country Club, Brookline; Kitansett Club of Marion; and the Ancient Golf Club of St. Andrews, Scotland. Franklin Reece is survived by his wife, two sons, two daughters, and 15 grandchildren.

The Brewster Family made the headlines again. **William S. Brewster** was recently named president of the United Shoe Machinery Corporation. "Like Father like Son," or should we say, "Like Mother like Son." Anyway, we are all very proud for you both, Bill and Ellen. . . . **Charlie Thompson** and Anne are always on the move. Their latest motor trip was over the boundary to Canada, where they visited Quebec and Montreal. We hear frequently from the Thompsons as well as the Achards. Frank has seen **Joe Cohen** twice this last week at the University Club, and we hope that Joe and his charming wife will be with us again at the 50th. Until December—**George Philip Capen**, Secretary and Treasurer, 60 Everett Street, Canton, Mass.

'14

Your secretary should have known better (in spite of the official note from the Goodyear Tire and Rubber Com-

pany) than to state, as he did in the July notes, that **Ray Dinsmore** had retired. Dinn has written that while 68 years may be his official retirement age, "I have one consulting contract and may have others. It would be very difficult for me to try to conduct business in long-hand, and I am sure I would always be behind." Yea, says your secretary to that, for I am already far past being recently retired from consulting work and now with no secretary. . . . This summer I took a trip on a new freighter which went from Spain to Yugoslavia, and after this wonderful trip I expect I will never get caught up with my correspondence. . . . It is always pleasant to receive word from a classmate without soliciting him. **Dave Gould** writes that he has been on the retired list a couple of times but still seems to be as busy as ever, if not more so. About half of his time is devoted to technical abstracting and consulting, under the designation Information-Industry; and most of the other half of his time goes into a little antique and refinishing business that Marj and he operate. "We do not make much money, but we do enjoy it. We are now getting ready for an exhibition at a small antique show. If any classmates come around our neck of the woods they would be welcome here (Burlington, N.J.). Dave once lived in Beverly, Mass., in the winter and me in Marblehead in the summer. I promised to drop around and see him 50 years ago and haven't done so yet!

Another to join our family of retirees is **Clyde Ross**, who served 44 years on the staff of the U.S. Geological Survey. He started with the Old Dominion Copper Company, and in 1917 joined the U.S.G.S., where he has been ever since. Although most of his work has been in Idaho, he has travelled from Bolivia to Alaska as well as from New England to the Pacific Coast. He now lives in Golden, Colo. . . . I am sorry to hear that our classmate **Tatsuo Furuichi**, whom some of our classmates may remember at the Institute and whom your secretary visited for a few weeks in Tokyo, has been confined with heart trouble. He too has just retired from his electrical company. . . . I regret that the dinner of the Second Century Fund did not include Mr. and Mrs. **Te-Ping Hsi**. As the dinner was separated into four groups and your secretary was not in the '14 group, the oversight unfortunately did not come to my attention. Let us hope that we can be together at the next class or Alumni dinner. . . . At Alumni Day, June 12, the following classmates were present: Mr. and Mrs. Affel, Henry R. Aldrich, Mr. and Mrs. Leigh Hall, Mr. and Mrs. Leicester Hamilton, Harold Wilkins, Mr. and Mrs. Ernest Crocker, Francis Atwood, Rudolph Zecha, and your secretary and Mrs. Richmond. As it is distressing to see the ever dwindling list, let us attend as many as possible while we are still located nearby and able to attend.

Another of our fine classmates has passed on. **Donald Gibbs Crowell** died on May 23. He prepared at Phillips Andover and was a Theta Delta Chi at the Institute. Don was born March 23, 1892 and lived in Winchester, Mass., until he

moved to Concord when he moved his company from Somerville to Lexington. His business life was spent in association with the Crowell Tube Company, which he had headed since his father's death. Among the Institute affairs with which Don has been associated are the Class Day Committee, Senior Portfolio Committee, Tech Show and the Junior Prom Committee. He is survived by his wife, Doris Berry, whom he married on October 14, 1922, and two daughters, Anne Young and Barbara Wheeler.—**H. B. Richmond**, Secretary, 100 Memorial Drive, Cambridge 42, Mass.; **C. P. Fiske**, President, Cold Springs Farm, Bath, Maine; **H. A. Affel**, Assistant Secretary and Class Agent, R.F.D. 2, Oakland, Maine.

'15

Hello everybody! Here beginneth the first column of the new season with the hope you and your families have all enjoyed a pleasant and happy summer. Again, **Al Sampson's** and **Barbara Thomas'** planning and preparation made our class cocktail party the outstanding event of Alumni Day for us. In answer to his invitation, Al had 120 reply cards from 23 states, showing that loyal 1915 gets around. Many of the messages will follow in subsequent Class Notes. It was grand to see again and give cordial greetings to our 60 classmates with their families and guests, especially Mr. and Mrs. Tom Petrie, of the M.I.T. staff, and a most welcome guest whom we all remember with great affection, Professor Samuel C. Prescott, '94. Another distinguished guest, active in M.I.T. and Alumni affairs, whom we are glad to see each year, was Glen Jackson, '27, with his nice wife Betty. We want all these guests to continue to come to our party. The fame of this class cocktail party has spread far and wide, so it now has become a yearly fixture on Alumni Day. Al's report is the best play by play you could get: "On Alumni Day afternoon as the clock in the Ivory Towers struck four, 1915, the Class Supreme, answered the clarion call of ABLE AZEL and attended BARBARA'S BARBECUE where all any classmate could wish for Class Comfort was spread on the groaning boards of the Faculty Club. And worthy of mention, too, as comfort accessories were those soft downy chairs in which to rest our weary bones and luxurious Persian rugs to cool our aching arches. Some 60 classmates, wives, relatives and friends of 1915 attended and, there renewed old friendships between sips of coffee, tea, and other inspirational liquids of a tranquilizing nature. Such were dispensed with succulent hors d'oeuvres of stuffed mushrooms, connoisseur cheeses, and various tasty bits esteemed for the tempting of the palate and the increase in avoirdupois. With the passing hours the buds of good fellowship came into full bloom and as the chimes in the tower struck six, all gathered about the piano where the nimble fingers of **Frank Scully** made the rafters ring with the old songs so familiar

to all loyal sons of Technology. Then with a rousing pledge to all be back in 1962 and a rendition of "Auld Lang Syne," off beat and sharps and flats, we went off to the Rockwell Cage for the Alumni Dinner and later to the Kresge Auditorium for the "Pops." Then, home and to bed and to awake the next morning with happy memories of a wonderful day among wonderful people; but, also quite aware that the years have taken their toll and 'we ain't what we used to be'."

Attending Alumni Day functions at M.I.T. were: Mr. and Mrs. William E. Ash; Lawrence H. Bailey; Mr. and Mrs. M. Warren Cowles; Mr. and Mrs. Henry F. Daley, Marshall B. Dalton; Mr. and Mrs. Benjamin Hurvitz; Mr. and Mrs. Azel W. Mack; Mr. and Mrs. Waldo F. Pike; Mr. and Mrs. Albert E. Sampson; Mr. and Mrs. Frank P. Scully; Herbert D. Swift; Mr. and Mrs. Frederic E. Waters; Mr. and Mrs. Charles W. Williams. Of the many pleasant repercussions from our party, here is **Henry Daley's**: "Our thanks and appreciation to Barbara, Al, and yourself for the wonderful cocktail party last week. It seems to be traditional to hold this party on Alumni Day, and each year seems to outdo the previous year's affair. All of which confirms the consensus thinking not only of our own class but other classes on what a wonderful job you are doing for 1915. Our best to Fran and yourself and do surprise us by stopping down this way one of these days."

Phil Capen's 1913 Notes in the May Review indicate a competition for **Speed Swift's** class affiliation. But he proudly belongs to 1915. . . . While summering on Cape Cod, **Hank** and **Virginia Marion** visited **Wink** and **Kath Howlett** (retired and living down there now) to wet down memories of our 1960 Reunion at Snow Inn on the Cape. . . . While on a sad, family mission in Florida this spring, I found **Tess** and **Gabe Hilton's** house in Bellair Estates, Clearwater, an oasis of good cheer and a friendly haven to visit. They did a great deal for me. In an attempt to reach **John Homan** down there, we found he was away on a long European trip. . . . Wholly unexpectedly in Naples last April, Fran and I met Giddy and Henrietta Herreschoff. Giddy, '12, was the father of the crew at M.I.T. Later we spent evenings in London and Paris with **Yolande** and **Ernie Kaswell**, '39. . . . **Forrest Legard** was badly injured in an automobile accident in December at Bath, Maine, and is making a slow but sure recovery. Our sympathies to him. . . . On May 17, **Jack Dalton's** daughter **Meralyn Breck Dalton** was married to Dr. Hubert Schmutz in Essfeld, Germany. The bride is a graduate of the Beaver Country Day School and attended Mt. Vernon Junior College and the Longy School of Music. Dr. Schmutz is a graduate of Western Michigan University and received his doctorate from the Technical University of Graz. Congratulations to this young couple with best wishes for a long and happy life together.

Herman Morse was in Florida last

spring and tried to see the Hiltons, who, unfortunately were out. . . . **Louis Weisberg**, a veteran in the electroplating industry, gave a paper April 17 on "Industrial Wastes and Water Pollution" before the Hartford Branch of the American Electroplating Society. . . . On June 8, **Whit Brown** received the Concord (Mass.) Rotary Club's highest award as a Rotarian of outstanding achievement, characterized by "Service above Self" with the citation, "To the demanding field of municipal government he has brought unsurpassed professional skill, an extraordinary capacity for labor and self sacrifice, the warmth of a spirit deeply devoted to his community. His career stands as an inspiring model of the highest and best in public service." Congratulations to our Whit on this splendid achievement and high honor, which he undoubtedly richly deserves. . . . While in Philadelphia recently **Larry Bailey** tried to phone **Herb Anderson**, but couldn't reach him. **Sol Schneider** said Andy is now working part time, so maybe he was at his chores. . . . Details of the Boston Class Dinner which was held October 6 will be in next month's column.

Jerry Coldwell has been grounded long enough! He and Verta flew over in July for a tour of the English countryside and then to the North Cape returning through Scandinavia, Russia and Germany. What an exciting trip! In London, Jerry ran into **Henry Leeb** in a tobacconist's. That certainly was a "one in a million chance." . . . **Carl Wood** has retired and moved to his new house in Peterboro, N.H., where he is a neighbor of **Jack Dalton**, who is also not working full time. . . . Although Fran and I, unfortunately, were not able to visit the retired classmates in New England whom we've seen the last several summers, we have enjoyed some delightful visits with many of our suburban Boston crowd, especially a pleasant Sunday with **Thayer** and **Darthea MacBride** at their attractive place in Cohasset. Although not in the best of health, Thayer continues to take an active and generous interest in class and Alumni affairs. . . . A highlight of the summer was a cruise around Boston Light and Boston Harbor with **Harry** and **Lucille Murphy** on their cruiser "Bateau." The **Rooneys** and the **Macks** really got their sea legs. What a comfortable boat Harry has, everywhere you look there's a refrigerator, which gave us a cool and refreshing afternoon on board. Ship ahoy! . . . **Harold Pickering**, I, has recently been remarried. This announcement was followed by **Ray Stringfield's** letter from Los Angeles: "I've been trying to wait until June 17 before sending in my class dues, but in view of your pathetic appeal for help, I'll weaken and send a check now. There is a good reason for the projected delay. You, of course, know the reputation blondes have for being unpredictable and taking horrible chances. This one, named Margaret Temple, says she is going to marry me June 17, and ordinary caution would indicate that one should wait until it happens before publicizing the event. One wonders why a beautiful gal should take such chances as to marry an old

wornout chemical engineer, but the situation is that she teaches Latin in Montebello High School, and probably thinks that nothing could be worse than that. My friends all say that she looks 15 years younger than she is, and I happen to know that she is not much younger than I am, so don't accuse me of robbing the cradle. More seriously, she has been a friend of ours for several years. I know she will look forward to meeting you and Fran when we can get back to Cambridge one of these days, so extend her your sympathy and wish us luck." To these remarried widowers and their new wives, all the best from our class.

From Olden, Norway, **Vince** and **Marion Maconi** wrote: "We are touring Norway in our rented car. Driving over the mountains, on steep and narrow roads calls for concentration, but the view from the top is thrilling." No place for anyone with acrophobia. . . . Support for **Ben Neal's** 50th Fund continues with this letter from **Frank Boynton**, 163 West State Street, Pasadena 2, Calif.: "I have been hanging onto a letter received from you in June, 1957, about our 50th Fund. Today nearly four years later I have decided to take the bull by the horns and part with a check for the honor of old 1915. I hope the fund is doing well and not everyone has waited as long as I have. I know how difficult it is to raise these funds, and I do appreciate the work you have done and are doing. Uncertainties of the future make me hesitate to pledge more but it is possible I may be able to add to this at a later date. Yours for 1915." . . . We all hope **Fred Vogel** is in good health, despite the reference in his letter. All our best to you, Fred. "I am not retired, and am spending about three days a week here, (Terre Haute, Ind.) and the rest home in Pittsburgh. It is tiring but I am in good health and would rather wear out than rust out. I enjoyed the reunion and thank **Philip Alger** for more or less insisting that I go. I was particularly interested in the changes on one hand, and still how some had not changed in outlook. **Hank Marion** carried me back again in a peculiar way. I was never competitive but only tried to do the best I could, never knew where I stood in school, and probably cared less, but Hank was interested in standings. Thank you very much for the pictures. If you do come to Pittsburgh, Mary and I would be glad to have you visit us. Massachusetts is a long way off and the chances of my getting there again are slim. I have very few relatives in New England still living."

Thank you **Evers Burtner** for your kind words: "When I compare your Class Notes with others in The Review, I realize what a BANG UP you are doing for us!" . . . We all have missed **Chet Runels** at the last few Boston parties. He writes: "I am sorry I had to miss the N.Y. meeting and the last 'Boston Dinner.' I am still quite busy trying to keep up with everything in business, during these spotty times, but I find I have to measure my outside activities to meet the requirements of my reduced physical capabilities. Best regards to you and your

good wife, and remember me to any of the boys you happen to see."

There are many cute and funny answers to that unfortunate "rock" I pulled on the second request for class dues. Note how these few reflect on my age and what goes with it. **Bill Mellema**, Surfside, Calif.: "Are you by any chance, like myself, getting old and therefore not as efficient as of yore? I'll gladly forgive you, Azel." **Ted Brown**, Hartford, Conn.: "I must have misplaced your first cry for help. The discrepancies of old age which you will get to know sometime soon. I am not even sure the enclosed check for dues is the right amount. Do you ever get down this way? Give me a ring if you are ever in Hartford, and we will have dinner together." And that wily **Ben Neal**: "You cluck! What are you doing, using class money to finance this beautiful trip to Italy? Please be sure that I have no objection whatever to sending you another check for class dues, but first note the attached card postmarked Boston, April 25, of a general dunning nature, and also note cancelled check, which I am also enclosing, dated February 17, which you evidently deposited for said class dues. The circumstantial evidence might suggest that an audit is in order. Outside of myself have we got a good one in the class?" I hope **Doug McMurtie's** reference to petrification means chronologically and not anatomically: "Herewith the class dues from one of your more or less petrified members, but no letter for the moment—maybe one in the fall. With best wishes."

It's sad to recall the passing of **Malcolm Thomson**. He was the son of Professor Elihu Thomson, a founder of the General Electric Company. A designer in General Electric's automotive department from 1919 until his retirement in 1956, he died May 4. . . . A staunch and loyal 134 classmates, representing an astounding, record smashing 42 per cent of our class mailing list, paid their class dues to "help Azel."—**Azel W. Mack**, Secretary, 100 Memorial Drive, Cambridge 42, Mass.

'16

Here's an opening message from our amazing ski-loving President, **Ralph Fletcher**: "The 45th. What a reunion! Hats off to **Steve Brophy** and his fine committee for the masterful job they did in making this reunion such a grand success—wonderful turnout; excellent location, accommodations, food; and a grand bunch of fellows and girls! Those of you who were there know just what I mean. No need to say more. All of us are very happy that our secretary was honored at the 45th. Harold was presented with an M.I.T. captain's chair and a notebook full of testimonial letters from members of the class. This man has done so much for our class that we will never be able to reward him fully. However, we were able to present him with these tokens of our affection and appreciation, and this seemed to give him great pleasure. This was a real highlight of the

reunion. Harold will undertake to give you a full report of the reunion in the lines that follow."

Well, the 45th Reunion has come and gone! It was held on June 9, 10, and 11 at the incomparable Oyster Harbors Club, Osterville (Cape Cod), Mass. An outstanding affair with an attendance of 93, it included 28 wives, one husband, and three sons. One of the latter, of course, was our Number One Class Baby, **Emory Kemp**'s son, the 40-some year-old Malcolm Kemp, whose entrance into this world was one of the marvels of the age to all of us when we were freshmen at the Tech on Boylston Street. The reunion had several firsts, including: this was the first five-year reunion with the ladies included; this was the first reunion attended by a 1916 co-ed, **Elsa (Habicht) Mueser**; from which it follows that Ed Mueser, Columbia, '15, was the first "husband" to be listed in our reunion records. The weather was excellent, once **Bill and Mrs. Leach** arrived from Texas on Saturday, for, as they pointed out, they always (by which they probably meant "practically always") bring good weather wherever they go.

The reunion, in its planning and final stages, represented the work of many. Steve Brophy served outstandingly in the top position as reunion chairman; Ralph Fletcher was up front with basic arrangements and guidance, and **Jim Evans**, as reunion secretary, penned letters far and wide urging attendance at the 45th. **Joe Barker** had the somewhat complicated job of arranging for prizes, favors, and souvenirs. The bulletin board with published items for the past 12 months was prepared by the class secretary. Transportation facilities to and from Boston were arranged for by **Izzy Richmond**. Registration activities sparkled with orderliness and efficiency under the direction of **Stew Rowlett**, and financial and other details were neatly cared for by our "honorary" member, **Bob O'Brien**.

Early arrivals included Jim Evans on Wednesday, and the Barkers, Brophys, Fletchers, Guethings, Rowletts, and Steve Whitney on Thursday, June 8. The official opening of the 45th was signalled by a loud explosion (by you-know-who) high in the sky above the Oyster Harbors Club at 6 P.M. on Friday. Here's the list of those in attendance: the Phil Bakers; the Joe Barkers, with son-in-law Sidney Hall, '43, and wife, the Gene Barneys, the Steve Berkess, Walt Binger, the Steve Brophys, Ray Brown, Will Brown, Jack Burbank, Jack Camp (from Mexico), the Jap Carrs, the Howard Claussens and son Fred, Dina Coleman (Kentucky), the Bob Crosbys, the Theron Curtises, Harold Dodge, Bill Drummy, the Paul Duffs, Jim Evans, the John Fairfields, the Ralph Fletchers, the Jack Freemans, Hovey Freeman, Allen Giles, the Barney Gordons, John Gore, Rudi Gruber, the Cy Guethings, Maury Holland, Dick Hunneman, the Emory Kemps and son Malcolm, the Bill Leaches (Texas), Al Lovenberg, the Gene Lucases, Herb Mendelson, the Elsa Muesers (Ed won't mind this classification for present purposes), the Hal Neilsons (Mississippi), Bob O'Brien, our

cheerful hardworking honorary member, the Dave Pattens, George Petit, the Obie Pyles, Izzy Richmond, the Doug Robertsons, Frank Ross, the Stew Rowletts, the Eric Schabackers, Hen Shepard, the Blythe Stasons and son Bill, the Francis Sterns, Len Stone, Ken Sully (California), the Hy Ullians, the Don Websters, Duke Wellington, Harold Whiting, Steve Whitney, Charlie Woolley, and the Vertees Youngs (Louisiana).

A few items come to mind on the subject of attendance: **Charlie Lawrence**'s two telephone calls and his disappointment at not being able to attend because of recent hospitalization. . . . Emory Kemp looking so well after recent successful surgery on both eyes the presence of three sons, Malcolm Kemp, a regular, and Fred Claussen, who has been with us before, and Bill Stason, a Harvard M.D. whom we were delighted to meet for the first time. . . . **Vert Young**'s pre-reunion diligence in urging down-South classmates to attend the Baker-Barney-Guething pre-reunion organization of the Michigan contingent and the many written expressions of disappointment from those unable to attend.

Golf—The golfers were busy, rain or shine, on the beautiful Oyster Harbors course. Admittedly some of the holes were longer than considered optimum by those who play golf once a year, as at reunions. Joe Barker played all three days and ended up by winning the golf prize. **Jack Burbank** reports **Frank Ross**'s 38 on a par 36 nine, and says Frank has a "nugget" putter that "was sure-fire one-putt from 15 feet or less and we all (Jack, Joe Barker, Francis Stern) proved it!" Frank was surely a fine exhibit, in living color, of what 50-50 retired life can do—50 per cent in Florida and 50 per cent in New England—with his healthy brown-red color, baby blue sweater, red pants, and yellow rain hat. Other golfers included Messrs. Barney, Ray Brown, Crosby, Dodge, Gordon, Holland, Lucas, Stason and son, and Ullian.

Tennis—In tennis **Jap Carr** and Izzy Richmond tied for top honors. Jap took the title on the flip of a coin. Someone reports that **Herb Mendelson**, with his shall-we-say-special racket, made the pros, Carr, O'Brien and Richmond, really step!

Cruising—As a special feature, **Howard Claussen** made his 30-foot Coast Guard Auxiliary facility, the "Shipperke," available. Some 20 or more of the reunioners, in groups, enjoyed a cruise in the neighboring South Shore waters. Howard lives right across the way in Cotuit and conducted several trips, with **Dick Hunneman** as second mate, for those who were willing to brave the prediction that things might get more than a little bit wet. . . . **Picture Shows**—Meals were excellent throughout the entire weekend, and special note is made of the delicious shore dinner (clams, lobsters, everything) on Friday night, served indoors because of dampness outside. Following the dinner, the featured entertainments for the evening were the pictures shown by **Walt Binger** and **Herb Mendelson**. Walt's presentation of colored slides of shots

taken in India were exceptional, some were breath-taking in beauty. He stopped long before we had had enough, and we look forward to further showings with a commentary such as only Walt can give. Then Herb showed movies, exciting action movies selected from reels taken during the last two safaris he and Vi had taken in the wilds of Africa. Amazing pictures—elephants, hippos, leopards; also natives, including pygmies, and amazing descriptions. Both Walt and Herb could, if they only knew it, give up consulting for awhile and go on lecture tours.

Reunion Banquet—The banquet on Saturday night was a highlight of the reunion—a wonderful affair with the excellent food that the Oyster Harbors Club always provides. The grace and charm of the lovely ladies added immeasurably to the occasion. Here again, the events can perhaps be visualized best by a listing of specific items: Steve Brophy demonstrating again how easy it is to be a good toastmaster when you know how; Ralph Fletcher's colorful and moving speech with a non-technical evaluation of the Class of '16; Joe Barker's glowing report of progress on the 50-year gift; Elsa Mueser, the only co-ed in attendance, at the head table; **Hovey Freeman**'s plea for funds for the class treasury and his success even in this "small business" venture; Steve Brophy's gracious acknowledgement of the enthusiastic plaudits for the tremendous job he had done as reunion chairman; the **Emmy Award** to Jimmy Evans for his great personal effort to make the 45th a success; the surprise presentation of an engraved-plate captain's chair to your class secretary accompanied by a red leather volume of letters from scores of classmates; **George Petits** art work in the bound volume of letters just mentioned; **Rudi Gruber**'s gift to the secretary of a 1916 issue of The Technology Review; the Bridge award to Frank Ross, second prize to **Dina Coleman**, and **Francis Stern** and **Len Stone** sharing the remaining honors.

Here are other items that come to mind, with contributions by Messrs. Burbank, Evans, Giles, and O'Brien: the class banner rippling in the breeze over the main entrance to the Club; the unknown heroes, the underwriters, whose generosity made it possible to schedule cocktail parties both afternoons and to open the bar for the entire reunion; the delightful gifts: perfume and rain hats for the ladies from Steve Brophy; boxes of Richard Best pencils inscribed "M.I.T. 1916—1961" from **Len Best**, whose absence was due to a daughter's graduation from Goucher College; cardinal-and-gray knitted nylon sport shirts with '16 numerals from **Barney Gordon**; cardinal-and-gray plastic baggage tags for all present with name and address and "Class of 1916, M.I.T.: 45th Reunion" from **Joe Barker**; and wine, the best, for both dinners from Ralph Fletcher; the President's Room downstairs, the place of continual assemblies where all really important problems were really solved; **Henry Shepard**'s interesting comments on the accomplishment of his nephew, Astronaut Alan Shepard; **Allen Giles** again

proving to be a man very much at home at the piano, both solo and in duet with **Will Brown**; Barney Gordon singing as well as ever; and a new voice in the reunion song festival, that of our sparkling **Sylvia Young**; the interesting account of education problems in Kentucky as told by **Dina Coleman** as a member of his local board of education; **Ralph Fletcher** making sure everyone was keeping happy; the early morning **Whitney-and-Coleman** forums on various topics including monkey business, as reported by a major benefactor; the outstanding job of **Sibyl Fletcher**, **Mary Barker**, and **Jessie Brophy** in organizing activities for the ladies—Provincetown, antiques, cruising; good report from **Phil** and **Thelma Baker** and **Jim Evans** re their visit in Cohasset at the home of **Jack Woods** who is coming along well; **Steve Whitney's** hospitality Sunday night for several classmates in his Watertown home; **Bob O'Brien's** helpfulness at every turn; **Will Brown** looking in exceptionally fine shape and **Bill Drummey's** stentorian voice; **Cy Guething's** continued ability to handle cold water—a swim (brrrr!!!) each morning; and **Jack Camp's** dissertation on how to survive at the high altitude in Mexico City.

Alumni Day came the day following the reunion on Monday the 12th. Here is a list of those who attended: the **Phil Bakers**, the **Joe Barkers**, the **Steve Berkes**, the **Steve Brophys**, **Will Brown**, the **Jap Carrs**, the **Ralph Fletchers**, **Barney Gordon**, **Rudi Gruber**, the **Hal Neilsons**, **Shatswell-Ober**, the **Al Lovenbergs**, the **Stew Rowletts**, the **Blythe Stasons**, **Hy Ullian**, **Ed Weissbach**, **Duke Wellington**, and **Jack Woods**. Ralph reports many enthusiastic letters received regarding the reunion and submits this sample: "I can't remember anything I have done in the past several years that was as enjoyable as the short time spent at the 45th Reunion. The only complaint is that it was over so quickly." That's something to remember next year before one even considers the possibility of deciding to just not go!

Charlie Lawrence's letter before the reunion indicated he had given the reunion "first priority," but as it turned out, he couldn't make it. He was still not quite far enough along since his hospitalization. He had especially hoped to have his oldest son **Dick** (S.B. VI and Ph.D. VIII) and wife act as chauffeurs and helpers to **Mrs. Lawrence** on the trip to the Cape where he "would like to show them off to the best class of M.I.T. And I'm not bragging, I can prove every syllable!" . . . **Frank Hastie's** wire regrets were expressed thus: "Greetings. Regret that heat, humidity, thunder, and infirmities of age prevent my attendance complete with white beard three rousing cheers for our side." . . . **Art Shuey** spent reunion days in an English hospital where he lost part of his stomach in an emergency operation. He and his wife had plans for going to Melbourne, Australia, had sailed from New York on April 12, landed in England on the 18th and were visiting in the home of some English friends when the emergency arose. They were supposed to sail on

May 3 on the "Himalaya" around the world from London but had to cancel. Art ended up "with seven pints of good English blood and lots of good English and Scottish friends," for they spent three weeks of his recuperating time up on the Kintyre Peninsula, Argyllshire in Scotland (west of Glasgow), where his great-grandfather had lived before coming to the U.S.A.

Late in May, **Bob Wilson** contacted **George Maverick** at the University of Virginia in Charlottesville in connection with a trip South to give a commencement address at King College, Bristol, Tenn. Said he found George comfortably settled in a fine new house on an old family farm near Charlottesville. . . . **Buck Bucknam** in May wrote he was coming east in October, to Chicago, Boston, and also to Swampscott where he will look up **Ed Jenkins**. Says in California he has gone back to his childhood days and has put in blueberry bushes, the kind he used to pick around Newburyport over 50 years ago. Also: "It looks as though I will have enough for a pie this year!" . . . In July, **Irv McDaniel** was in Avila, Spain, where he expected to stay until after Christmas, then to return to California via India, Thailand, and Japan. And: "Best wishes to all," says he!

We have some interesting pictures and reading about **Joe Barker** in the June issue of "Trinity Parish Newsletter" of Trinity Church in downtown New York. The first item relates to the special highlight of the Ascension Day service: the dedication of two new organs being installed in the chancel and gallery. We quote: "These were presented to the Church by the Churchwardens, Mr. Frederick E. Hasler and Dr. Joseph W. Barker and received and dedicated by Canon Newman, Vicar of Trinity Church." A picture shows Mr. Hasler and Joe with the vicar in the chancel; Joe presented the gallery organ. Then, with respect to the graduation of St. Luke's School's largest class on June 6, we read: "Dr. Joseph W. Barker represented the rector and presented the diplomas to the graduates. His friendly manner and personal queries about the interests of each of the recipients delighted both them and their listening family members and friends. Dr. Barker also made the principal address." We can well believe that Joe's message was inspiring. A group picture shows him with the graduates in the garden. We also think we have spotted him in another picture: "Luncheon in the Garden—following graduation exercises" because of his well-groomed appearance and bow tie. Congratulations, Joe, for more good work!

We regret to report the death of **Bridgie (Porter C.) Webber** in Wellesley on June 13 after a short illness. Over the years Bridgie was one of the faithfuls at the annual 1916 Boston dinners and at reunions. He was for many years with the architectural firm of Maginnis, Walsh and Kennedy. Besides his wife, **Marie (Moore)**, whom we all met at the **Ralph Fletcher Captain's Chair Dinner** in August, '59, he leaves (as reported in the **Milford Daily News**) "one son, **Porter**

C., Jr., of Manchester; two daughters, **Mrs. John M. Clark** of Duxbury, **Miss Nancy Webber** of Wellesley Hills, and three grandchildren." . . . We regret, too, to report the death of **Ralph Bagby** of Evanston, Ill., on June 25 in an automobile accident. Vert Young says he got a letter from Ralph on May 30 explaining why he could not attend the reunion. Vert says: "He had a very interesting life. He stayed in the Army after World War I and worked with General Billy Mitchell. He got in again in World War II, went AWOL from his headquarters in London and jumped with paratroopers in France and darn near got court martialed. I guess his rank saved him. Then to get killed in a car wreck!"

Vert then mentions that he and **Sylvia** were going on an elk hunt (and rock hunt) in Wyoming on Sept. 17. Says: "Tried to get a permit for a mountain sheep but did not win in the drawing—probably just as well, at my age! Hope the elk don't climb quite as high as the sheep!" . . . If one turns back through the pages of **The Technology Review** in the 40's, he will come across three interesting articles by **Rudi Gruber**: "Antimalarial Ammunition" in the February, '43 issue, "Penicillin—Progress and Problems" in the March, '44 issue, and "Penicillin and Streptomycin" in the January, '47 issue. Rudi was vice-president for foreign relations, Merck and Company, from 1925 to 1952 and according to the editor's note in the March, '44 issue: "The progress of events in the medical and therapeutic frontiers of research is surveyed from time to time for **The Review** by Rudolf E. Gruber." A card from Rudi in July indicated he had spent three weeks since the reunion on the West Coast and was about to leave for Europe to return in November.

Late in May, **Steve Brophy** was re-elected to a three-year term on the Board of the New York Medical Center of New York University. Then on the first of June he was appointed a member of the Hospital Committee of the Medical Center. Congratulations, Steve, not only to you but to the Medical Center! . . . **Charlie Woolley** sends a brief message from down in Maine ("down" is right if you live or have lived in Eastern Massachusetts). He writes: "I'm alive. I'm a Tree Farmer. Spruce pulpwood is the product. I'm also in the securities business on a part-time basis for an old and respected Maine investment broker. I watch **Jack Paar** and NEVER arise before seven-thirty A.M." . . . **Elizabeth Pattee** reported in July that she was down in Small Point Beach, Maine, in a small place she has had for many years "but we are rotting away with the fog and dampness, the worst summer ever known in Maine, certainly in my memory, which is quite long now."

Late last spring, **Don Webster** forwarded a **Boston Herald** clipping dated May 6 that carried the headline: "The Shepards' Day—Kinfolk Here Share Thrills." Among the kinfolk was **Henry Shepard**. Henry's smiling face headed up the article, with the caption: "Congratulations!—And they came through the afternoon by phone, telegram and per-

sonal visit to Henry B. Shepard of West Newton, an uncle of the nation's first successful astronaut." As noted in the Herald: "It was a great thing, and it will bring back confidence to the U.S. We deeply needed a mental lift," he said. Like their hero nephew, Shepard and his wife Frances tucked away breakfast before facing the ordeal ahead. For Shepard, the touchiest moment on TV was not the actual launching, but the confusion that existed immediately after the landing in the Atlantic when the announcer could not determine whether the astronaut was inside or outside the capsule. The uncle also recollects taking a mighty deep breath when he heard the big orange parachute had opened. A successful sales executive and a M.I.T. graduate, Shepard is hardly a superstitious person. Yet he readily admits to having his fingers crossed figuratively at least, and 'I wanted to pretend this was just an ordinary day—until it was all over.'

Best wishes from the whole Class of 1916 to **Ed Weissbach** and his new bride. Here's the way the announcement read: "Mr. and Mrs. John Bridge announce the marriage of their sister, Elizabeth Crosby Bridge, to The Reverend Edward Weissbach on Tuesday the first of August nineteen hundred and sixty-one, First Church Unitarian, Cambridge, Mass." Note too: "At home after the first of September, 73 Wheatland Street, Somerville, Mass." . . . And now that the 45th Reunion is over we can look forward to the 46th next June. Snapshots of the 45th have been received from Phil Baker, Steve Brophy, and Len Stone. All of them will be used for mounting on the bulletin board at the 46th. Copies of other snapshots taken at Osterville will be welcome additions. Try to keep us informed on all sorts of things that can be included in the Class Notes: whom you've seen, where you've been, what you're doing or going to do, what the children or grandchildren are doing, a bit of philosophy, etc., etc. Best wishes for a good Thanksgiving with those you want to be with.—**Harold F. Dodge**, Secretary, 96 Briarcliff Road, Mountain Lakes, N.J.

'17

Join the procession of 1917'ers to the 45th Reunion of the class at Snow Inn, Harwichport, Cape Cod, next June—and give your classmates a preview of your present activities through the Class Notes in the meantime.

We hope that the generous response of **Tom Meloy**'s request for notes from the southeastern part of the U.S. may be repeated elsewhere. First on the list is a note from **Bill Mehaffey**: "We have been spending our winters in Beaufort, S.C., since retirement. Here I have had the pleasure of seeing **Dutch duPont** and **Russell King Robinson** on different occasions. Peter Ash of the Class of 1919 has a cottage down here, and we have had many hunting trips together as well as many family bridge sessions. After retirement from the Navy as a captain, due

to a bit of ticker trouble in 1949, I went with a consulting engineering firm in Baltimore, Md., for about five years, when I was again forced to retire because of illness. Since then, my wife and I have spent our summers in the mountains near Fayetteville, Pa., known as Caledonia State Forest. We have five children with one great-grandchild which, I understand, makes me a great-grandfather. I find that I will have some responsibility in connection therewith."

Walter Medding writes: "As for what I am doing now, the answer is very little. Since I retired from the Army in 1953, I have lived in the fast-growing community of Springfield, Va., and much time has been taken up in putting about the place, fighting crab grass, Japanese beetles, etc. This selection was fortunate as I am close to Fort Belvoir with its excellent hospital, whose facilities I have had to use several times, beginning with a coronary occlusion three years ago, so my activities are somewhat limited. My wife and I roam around quite a bit visiting our four children and ten grandchildren. We spent two and-a-half months with one daughter in France and often see another whose husband is stationed at Fort Belvoir. One son is now in Germany, and the other is at Fort Stewart, Ga. These visits, plus reunions of my W. W. II regiment and American Legion post activities, all add up to rather full days."

Duncan MacRae states: "Two years ago, I celebrated my 50th year as a member of the American Chemical Society by attending its Boston meeting. While there, I had most pleasant visits with our classmate, **Jim Beattie**, and with Dr. Miles Sherrill, '99. Jim was good enough to give me a copy of his lecture notes for his class in thermodynamics. What he doesn't know about the subject, and equations of state, must be quite negligible. Dr. Sherrill invited me out to dinner at his apartment in Brookline, and we talked about friends who were at the Institute 50 years ago, when I first came there as an assistant in theoretical chemistry. It was the next year after that I taught inorganic chemistry under the supervision of Talbot, Blanchard, and Phelan, and met many of the members of the Class of 1917 for the first time. I am at present living quietly and happily here in the country about five miles from Route 1 or Route 40 and about 20 miles north of Baltimore. Eight years ago, I retired from the government service at the Army Chemical Center. Since then, I have, off and on, taught some extension courses for the University of Maryland at the Army Chemical Center and have been induced to take on several unpaid jobs. The latest of these is as a member of the Harford County Metropolitan Commission. It is now providing water and sewer facilities for the town of Edgewood and is about to have its engineers publish a comprehensive plan for such facilities for the whole county. I read the 1917 Class Notes in The Tech Review and even enjoy the jokes." (First, and only fan mail acknowledgement.)

Charles Venable writes: "For the record, my business life has been fairly simple. On leaving the Research Labora-

tory of Applied Chemistry at M.I.T. in 1922, I went to the American Viscose Company to head up their research and development activities; 34 years later, October 1, 1956, I was retired, this being mandatory at age 65 with this company. Actually, I was relieved of all administrative duties about one year earlier, so I had the welcome experience of 'tapering off.' Since then, I have followed several lines of professional activities of interest to me, including promotion of science teaching in local high schools, establishment of a group of retired scientists willing to donate part of their time and experience to the public welfare, etc. Mrs. Venable and I have traveled quite extensively in the U.S.A. and abroad. It has been a rather happy experience in retirement, and I feel that I have been fortunate. My class at M.I.T. was officially 1917, although I was in the graduate school there from 1913. My undergraduate days were at the University of North Carolina, Chapel Hill. I have always had a tremendous respect for M.I.T. and the terrific role it has played in U.S. and world affairs."

Here is a word from **Justin Basch**: "I have not written for the Class Notes for at least five or ten years, but I have been pleased to read all the opinions that are proffered for, and against, retirement. As one of the younger members of the class, my retirement is not due until this fall. Our company's retirement advisory committee has just given me a year's reprieve, and two more years after that are possible if health withstands the rigors of today's business. At present, I function as vice-president of marketing for Oakite Products, Inc., a firm that is in the chemical specialty business with some emphasis on detergents. We have a married daughter and four grandchildren in Manila, where the son-in-law labors for the U.S. Information Service. Most of you may know that this department is crusading for bigger and better democracies in southeast Asia. My son is doing chemical research work at the Department of Agriculture in Philadelphia. If we are still both capable of physical navigation, we shall look forward to attending our 45th Reunion."

Dexter Tutein writes: "Tom's letter reached me here at my sister's in Baltimore, after being forwarded from Palma de Mallorca, a Spanish Island in the Mediterranean from which I boarded the S.S. Independence on March 5. The Independence was cruising in the Mediterranean and stopped at Genoa, Naples, Cannes, Casablanca and Funchal Madeira, arriving in N.Y.C. March 20. I arrived in Rotterdam on the New Amsterdam the previous Sept. 26, bought a Volkswagen in Paris and toured Europe in the rain for three months: French Chateau country, French Riviera, Vienna, Munich, Wiesbaden, Baden-Baden, Ruhr, Rome, Naples, Florence, Barcelona, Madrid, Lisbon, and back to Barcelona and ferry on December 2 to Palma where I lived three months. Sunny and warm and the least expensive place in Europe; first class hotels \$4.00-\$4.50 per day. Best regards from a Beach Comber."

Dud Bell's comments on the life of a

17'er at plus or minus 65 are in his inimitable style: "Like many of us, I hesitate about writing concerning myself, that is, for publication. My life is not full of accomplishment with a dozen grandchildren, millions of dollars made, false teeth in my mouth, a stomach specialist to keep me alive, and pills to make me sleep. I commented to my wife that I rated fairly high in the class of 1917 because not all of our illustrious class could drink a couple of quarts of booze each week, take lessons in tap-dancing, perform as a magician, and lose a few thousand bucks each year on Broadway shows. Last year, I organized a summer theater in Bristol, Pa., where I was born and live, which lost \$35,000. We had the biggest seating capacity of any such theater in the country and ran the best of Broadway stars and shows. Helen Hayes even graced our stage. Regardless of losses, it was a lot of fun. I've always had a yen for the theater, and I've done quite a bit of dramatic writing too and never made a cent. I own some bank stock and I noticed when the proxy came in that I voted for **Walt Beadle** and made him a director. Now I know how to raise the coin for my next theater venture. What I can't understand about so many of our classmates is how they can retire? For all those fellows, I intend to organize a gravedigger's society and prepare the holes in the ground. We'll get ready and bury them for free. The list is getting bigger every day. Perhaps retirement goes along with success. The road to the top took so much out of them that they take things too seriously, including themselves. When the world rests on your shoulders, you're finished. No humor and all worry. There's just one solution: go off on a good drunk. But in all seriousness, I envy the retirement boys. I have to work like hell, otherwise I couldn't have the fun of losing the money each year. I'm a manufacturers' representative. That's just another name for a salesman, or, in its final analysis, a peddler. I have some 500 customers and travel three states including much of Europe each year. It's fairly profitable, and I wouldn't retire even if the money losses ceased. I like to travel—not the way the success boys do it—I travel on a shoestring. I like common people but I'll have to step up soon and join the gang at the 45th Reunion. I'll go into rehearsal now and get ready. There are still some heavy drinkers left. I'll start training. I'm a collector of dramatic works, and have some very rare volumes. My library has a couple thousand now and all first editions. Drop in and see me, I'm only 20 miles from Philadelphia."

The following is an accounting from **W. Allan Moore, Jr.**: "I graduated with the Class of 1915 at The Citadel, the Military College of South Carolina, in Charleston, and in the fall of that year entered Tech, taking the course in architecture. While some of my subjects were in the Class of 1917, there were also some in the Class of 1918. Due to my military training, I became very restless when we declared war in the early part of 1917, and had an irresistible urge for the army. I received a commission in the regular

army and left Boston on May 10, 1917. I served more than two years in the army, and went into Germany with the 90th Division. On returning to the States in 1919, I resigned from the army and returned to Charleston. I entered the manufacture of commercial fertilizer, and became an official and part owner of a local company. I worked hard and with good success. I retired in 1957 and am now enjoying the 'golden years.' My son is an engineer and my daughter is married to a plastic surgeon. They both live in Charleston so my wife and I enjoy them and the grandchildren." . . . **Dick Catlett** expects to attend the reunion and he wrote as follows: "Right now, having gotten myself off of the payroll of Catlett-Johnson Corporation, and being on a modest retainer as consultant, I find myself spending most of my time on M.I.T. Second Century Fund business. I am chairman for Virginia. My territory covers six widely-scattered cities, and any number of small groups over a 400-mile stretch. My wife and I still live within a few miles of our two sons and their families totaling six grandchildren. We have a daughter in Philadelphia, with another grandchild in prospect."

Thomas Searles was graduated from Mississippi State University with a B.S. in Electrical Engineering in 1909, followed by a B.S. from the U.S. Naval Academy in 1913, and a degree of M.S. in Naval Architecture and Marine Engineering from M.I.T. in 1917. Subsequent to the outline of his record in our 30th Anniversary Class History, he entered finance and other businesses as president and owner. He was chairman of the board of Russell Manufacturing Company, Middletown, Conn., and in 1948 was selected by the Hoover Commission to make recommendations for reorganization of the Veterans Administration. He is now president and owner of Federal Yeast Corporation, Baltimore, Md., Gold Star Foods Company, Dundalk, Md., and Equity Investment Company, of Philadelphia. He writes: "I do recall with much pleasure many contacts which I made among the class personnel, although at that time we had separate quarters, separate classrooms for most of our courses, a separate library, and separate drafting rooms, since we had many confidential blueprints and plans. This spring, I plan to take a trip south where I will probably attend my 52nd reunion at my first college. I graduated in Electrical Engineering at the tender age of 17 and-a-half."

Walter Beadle writes: "During January and February of this year I spent an appreciable amount of time as a member of a bipartisan committee appointed by the governor of Delaware. In 1958 I retired as an employee of the Du Pont Company, although I have continued as a director, and I am a member of its Audit Committee. The University of Delaware also claims some of my time as a trustee. I am a director of the Philadelphia National Bank and a trustee of the National Industrial Conference Board. On the whole, I am almost as busy as before I retired, but I do find a little more time to spend with our six grandchildren. And I

still like to sail in the summer and ski in the winter." . . . **Ed Payne** advised us as follows: "I do plan to go to the 45th Reunion and am interested in the plans as they progress. I hope the 45th does not include 'the coldest clambake on record.' (Our 40th at Wentworth-by-the-Sea, Portsmouth, N.H.) You may know that when I retired from the Bell Telephone Labs, I took a job with N.S.A. where I now am in communication systems engineering. That is in line with my professional experience of more years than I like to talk about. My wife and I are in a nice little rented home in College Park which strikes me as one of the less repulsive parts of Maryland."

Vincent Panettiere writes: "I have been living in Sarasota (Fla.) for almost seven years and have enjoyed the balmy weather very much. I came down in the fall of 1954 to take charge of the Engineering Department of Visioneering Company, of Cleveland, in their new plant and enjoyed the work very much until I was retired in 1956. Since then I have spent very leisurely hours doing some traveling and the things I wanted to do but never had the time." . . . **Dutch duPont** informs us: "So far as news of my present occupation is concerned, I reside in a delightful community on the eastern shore of Maryland and operate a large farm. In addition to this diversion, I am a member of the Public Service Commission of Maryland which requires my presence in Baltimore about once a week. Strange as it may seem, I am retained on a consultant basis by two large engineering firms in New York which involves my visiting that horrible city about once a month. I go to Washington occasionally, as one of the banks there takes care of my finances."

Harry Toole, another DuPonter writes: "I am a gentleman of leisure these days as I retired from DuPont December 31, 1957 after spending 36 years of interesting service in their textile fibers and engineering departments. Shortly after retirement, we vacationed in the Bahamas and Florida and on our return to Swarthmore I had a medical check-up as I had been losing weight quite steadily. The result was four months in the hospital. The past two years have been devoted to casual living. We spend three months on Bailey Island, Maine, three winter months in Florida, and six months in Swarthmore, with side trips now and then to visit our son and grandchildren and other relatives on both sides of the family." . . . **Max Mackler** writes from Florida: "I retired from the Florida State Board of Health in 1954. Most of my time is occupied working with civic and philanthropic organizations, namely, Boy Scouts (awarded silver beaver, 1956), Blind Association, Tampa Urban League, Cerebral Palsy Clinic, etc. Fortunately my wife enjoys traveling. Thus far we have visited all but a few of the states and have toured Canada, Europe, Mexico, and the Caribbean Islands. I have a daughter, and grandchildren in Union, N.J. Living in Florida keeps us in good health and good spirits."

Here's some news from **Dick Whitney**: "There isn't much that I can write you about myself, except to report that I find

myself in excellent health, still able to enjoy a 'scoop' or two, less able—or less inclined—to participate in physical activities, but nevertheless eager to keep occupied. I still continue to effect a light management of our little company, Chimney Corner, Inc., which tries to sell Pontiac and Tempest automobiles, Johnson motors, etc. Of the many vacations which I have been able to enjoy in the past, the last one to the Hawaiian Islands was the best. I consider the hula a delightful dance (to watch), the music of Hawaii delightful, and the weather near to perfection. Yet, I would not trade our Virginia four seasons for it." . . . **Allen F. Kingman**, who retired from the army as a brigadier general, writes: "I had completed 36 and-a-half years in the Army by 1953 when I was retired. I immediately started digging flower beds on the small place we had bought in Chapel Hill, N.C. I enjoyed my active duty thoroughly. I had much school duty, both as a student and as an instructor while in this country. I spent almost five years in Europe during and after World War I, and almost three years in North Africa and Europe in World War II. I am most happy in my retirement in this attractive and congenial university community. I garden—mostly flowers—to beat the band. Mrs. Kingman and I play a good bit of bridge, and we travel to our three children—all married with children of their own—driving 15,000 miles a year on an average. In other words, life has really favored us."

Bill Dennen wrote this from Mexico: "We left the farm (Scranton, Pa.) in November last and have been wanderers ever since. Mrs. Dennen and I enjoy Mexico very much and we plan to spend our winters here and our summers back at the farm. We are looking forward to our 6th Mexico Club Fiesta this spring. We get back to Tech as often as possible to visit my oldest son, who is associate professor of geology there." . . . **Howard Stewart** writes: "After M.I.T., I was in power plant and mechanical engineering work for approximately 20 years during which time I served as an honorary secretary. My next activities were in the packaging field as sales or general manager of a company manufacturing packaging machinery. In 1956, I severed my connections with a company that was not satisfied with my traveling 100,000 miles a year and wanted me to assume more. I, therefore, became a manufacturer's representative for a number of machinery accounts. My son and daughter together have provided me with eight granddaughters and one grandson. Incidentally, I no longer play tennis, and my golf handicap of three has risen with the burden of years." . . . **Dean Canan**, who was a graduate student working for his master's degree in 1917, writes: "I retired in 1953 after twenty-eight years with the Rust Engineering Company of Pittsburgh. We moved to Hagerstown to be near our only daughter and her husband. I have been doing an occasional job for my old company, which has necessitated going back to Pittsburgh for periods of a few days to several months. Our activities include babysitting for our daughter's three children, church and charitable work,

with an occasional vacation trip of our own. It has been amazing to me to see how busy retired people can be doing so many things which are worthwhile."

George Henderson writes from Arlington, Va.: "I certainly plan to attend the 45th Reunion, no matter where I may be at the time. My wife died in the summer of 1959, and running my place takes a lot of time. I perform certain civic duties, make frequent trips to Massachusetts to look in on my mother, and, needless to say, play golf. That, and a certain amount of travel, keeps me busy." . . . **Thordike Saville**, who received his M.S. at M.I.T. in 1917, has had a wide experience as both consulting engineer and educator. He advises us that during the last three years he has spent a considerable amount of time as chairman of the Committee on Engineering Education and Training of the Conference of Engineering Societies of Western Europe and the United States. He has also carried on his consulting practice in the field of water resources and coastal engineering. In August, 1960, he participated in the Seventh International Conference on Coastal Engineering at The Hague. He is now back in Gainesville, Fla., on half time with the University of Florida, and the balance of time on consulting work and committee activities.

Edward Twomey writes: "I am still active as vice-president of a sizable consulting organization specializing in the prosaic field of sanitary engineering with particular reference to water supply and waste disposal for many municipalities and industries in the northeastern section of the country. I have been with Morris Knowles, Inc., continuously since a week after graduation, with the exception of a stretch in the Navy from 1917 to 1919 and again from 1943 to 1946. In 1946 I joined the specialist reserve of the Army and spent the major portion of my service time with the advance section of the Supreme Headquarters in Europe, wearing several hats, one as chief of the Utility Section, looking out for the welfare of the Army as it advanced, another as representative of the Economic Section of the U.S. Group Control Council for Germany during the invasion and occupation of that country, and in the later stages as co-ordinator of Operations and Supply Sections of Headquarters referring to the needs of the civil population in the areas which were taken over. It was quite interesting as it provided the opportunity to know the principal allied leaders, their policies and missions, as well as their performance, and on occasion to contribute something toward U.S. policy."

The Ridgewood, N.J., "Herald-News" of July 13 featured a heading, "Vet Who Aided Lindbergh Retired from Curtis-Wright." The article reads: "Kenneth M. Lane, one of the two service representatives who got Lindbergh off on his record-setting New York-to-Paris flight in 1927, retired June 30 from the Curtis-Wright Corporation, after 31 years of service. Lane, who has been corporate patent attorney since 1953, is primarily an aeronautical engineer. During his 41 years in the aviation industry, he has worked close-

ly with, and known well, people who comprise aviation's Who's Who. Lane designed the Wright 'Apex,' a Navy fighter which established altitude records for land and sea planes. It was Lane who was requested to be available for the 1927 New York-to-Paris race by Lindbergh, Chamberlin and Byrd. He contributed to the design of the Wright 'Bellanca,' the plane in which Clarence Chamberlin and Bert Acosta set an endurance record prior to the Atlantic flight. However, it was for Lindbergh that Lane's skill was essential. He supervised all of the flight tests, and when a few days prior to his take-off, Lindbergh had an accident which damaged the air-frame of his ship, Lane supervised the 'fix.' His assistance to Lindbergh went as far as climbing on the ship and personally pouring the gas through a strainer into the tanks just prior to take-off. In 1928 Lane designed the power plant installation for the plane Admiral Byrd used in his famous flight over the South Pole. For a man who was on a first name basis with the greats of aviation, Lane's greatest thrill was learning to fly and soloing in one day back in September, 1922. Mr. and Mrs. Lane will summer in Madison, N.H., and then 'take the car and see some of the places that I've looked at from airplanes during the past 41 years'."

Neal E. Tourtellotte died on June 28. A Seattle "News" clipping reads as follows: "With the death of Neal E. Tourtellotte, this community has lost one of its most useful citizens. As a young man, he served his country as an Army captain overseas in the First World War. He concluded his career with another period of government service, as director of the Northwest Regional Office of the Small Business Administration. For four intervening decades, he was a Seattle business leader. Throughout most of his adult life, Mr. Tourtellotte gave generously of his talent, time, money, and energy to civic and charitable causes. We will take note here of only one of these many services. For 30 years he was the one and only Santa Claus on Christmas morning at Children's Orthopedic Hospital. Some persons would find such a role incongruous for a staid business leader—but not those familiar with the warm and cheerful nature of Neal E. Tourtellotte." . . . Mrs. Killorin advises us that her husband **Francis O. L. Killorin**, died at Venice, Fla., on November 22, 1960. He spent the last two years with the class and was graduated from Course I. . . . The Alumni Office reports the assumed decease of **Walter T. Mahany** and **Otto E. Nielsen**. Neither are shown as having graduated. The former was registered in Course I and the latter in Course VI.

The following comprise the random notes section: In spite of a good representation of '17'ers at the Centennial Celebration in April, the following showed up for the June Alumni Day: Messrs. Basch, Dunning, Holt, Strout, Tuttle, Whitman, Walter Pond, Hunter; and the following couples: Beavers, K. Bells, Blanchards, Dennens, Gartners, S. Lanes, Lobdells, McNeills, Dix Proctors, Ray Stevenses. . . . A testimonial dinner was given in May for Professor **Alfred J. Ferretti**, Chairman of the Northeastern University

Department, of Mechanical Engineering, who retired June 30 after 43 years' service at Northeastern. . . . A two-column picture in the corporation section of Time Magazine of July 7 shows James Gavin seated with **Ray Stevens**. When Gavin became the Ambassador to France, Ray was returned to the Presidency of A. D. Little. . . . **Walt Whitman**, now scientific advisor to the Secretary of State, led a symposium discussion on Alumni Day on "The Universities' Role in World Affairs." . . . Faculty Retirements at M.I.T. included the following '17ers; **James A. Beattie**, Professor of Physical Chemistry, **E. P. Brooks**, Professor of Industrial Management, and **Walter G. Whitman**, Professor of Chemical Engineering.

Since this will reach you in the middle of the football season, the following definition of that season may be of interest: "The only time of the year when girls whistle at men in sweaters."—**W. I. McNeill**, Secretary, 107 Wood Pond Road, West Hartford 8, Conn.; **Stanley C. Dunning**, Assistant Secretary, 1572 Massachusetts Ave., Cambridge, 38, Mass.

'18

We were all born knowing how to breath, cry, ingest, digest, wiggle, go to sleep, wake up. Practically everything else we are able to do comes as the result of having learned something, and not all of life's lessons come easily. Some of our hard ones, though by no means the most devastating, came at M.I.T. whither (bearing that true learning which is achieved only by a series of personal experiences and never merely by remembering some formally organized material) the following brethren returned for Alumni Day last June 12: Eli Berman, Tom and Mrs. Brosnahan, Sam and Mrs. Chamberlain, Clarence and Mrs. Fuller, Alfred and Mrs. Grossman, Julian and Mrs. Howe, John Kilduff, John and Mrs. Markham, Bob and Mrs. Means, 1918's own "unclaimed blessing" Gretchen Palmer, Ed and Mrs. Rossman, "Pete" and Mrs. Sanger, Max and Mrs. Seltzer, Carlton Tucker, and Harold Weber.

A courageous letter from **Bill Wills** came just two days too late to be included in the July issue. With steadfast dedication to exact science he describes his difficulty of last spring as "an emergency cecostomy followed by an operation for stricture." As though all that were not enough to learn for one lesson in a bleakly suffering world, he then "got the old devil staphylococcus which called for a tracheotomy (same as Liz Taylor) plus a couple of other operations I don't know the surgical names of. Fortunately, due to all the latest pills, etc. I wasn't really ill. It just took time, particularly learning to walk all over again. With the good weather I've been out driving the car and banging the tennis ball against the garage door. Actually, I was pulled out of it by my good wife who came to the hospital every day through storm and hail. She propped me up when I got annoyed by the noise of workmen drilling through the concrete just under my room. The author-

ities, discovering that I am an architect, wanted me to feel at home, so they were remodelling next door. In this way they thought I might learn a thing or two about what happens to the households where I sometimes do a bit of remodelling. I still have a couple of nurses, but there isn't anything for them to do except to make sure that Marguerite gets a good night's rest. If any of the brethren come this way I would enjoy seeing them."

There's much to be learned from travel in this world of agony and ecstasy. So, from Switzerland, came an enchanting note from **Bob Means**. "During our freshman year," sez he, drawing lessons from an atmosphere now dimmed by the passage of 46 years, "I was fortunate enough to be in the Tech Show. The title was 'Getting Across.' These last few days I've sort of been living the part. For three weeks my wife and I have just relaxed where the first act of that show was supposed to take place . . . Nice, France. We are now in Chamonix on Mont Blanc, the scene of the second act. The hit song of the show was, 'On the Riviera, on the Riviera, Moonbeams softly play. On the Riviera, on the Riviera, Hearts are light and gay.' I don't recall who wrote the show, but music and lyrics were tops. There was a chorus I recalled while we were on the French Mediterranean shore. The words were, 'Bathing in the water, Doing things you hadn't order, You decide the bathing's very nice at Nice.' On this song I recently scored 50 per cent. I decided the beach isn't much, but the bathing really is lovely." With editorial prerogatives oozing down my quill, I'd like to make a few additions and corrections. It was I. B. McDaniel, '16, who wrote the show. He was an architectural student who used what he learned about Gothic columns, Byzantine domes and the Alhambra, guess where? As an officer in the United States Navy, from which he recently retired with the rank of captain. And about those lyrics, . . . Bob, your mind has obviously revolted against all the Freudian theories we've learned since graduation. My memory says the lyric was "As you dabble in the water, thinking things you hadn't order." **Ed McNally** and I played flutes in the orchestra. **Earl Collins** wrote some of the music, and I composed a few limping bars myself. But to get back to Bob's letter. He continues, "I was in the girls' chorus, no less. Some of the others were Dinsmore Ely, Jimmy Wooten (both killed in World War I), Ralph Mahoney, and Alphonse De Zubiria-Stevenson. That other song was, 'We're on our way to Chamonix, to Cham-Cham-Cham-Chamonix, The fairest spot beneath the Alpine sky, And there's no place I'd rather be than Cham-Cham-Cham-Chamonix, But we sure do hate to say good-bye.'" So you see, fellow classmates, there are lighter moments some of us can remember better than we recall the chemical reactions and the physical laws and the operational calculus we were supposed to have learned.

A letter from **Jim Flint** regrets that "I missed your call the other day when you were driving through Columbus and thereby a chance to see you and have a visit.

It was doubly disappointing because, as you discovered, I was at the M.I.T. Centennial celebration where I fully expected to find you. Like most of us, I always enjoy The Review and the items about our class which you faithfully record each issue. Like most of us, I have always secretly hoped to appear in print in that distinguished publication, and like most of us after over 40 years and never appearing, I quietly gave up hope. Can you imagine my feelings when, while eagerly reading the April issue, I discover that my good wife is quoted at length! How do you like that! She went to Bryn Mawr; it was I who went to M.I.T.!!! Slight correction please. **James Arthur Flint** and his multitudinous doings have been mentioned in these august columns at least four times that I recall. Furthermore, those of us who are better at pushing the slide rule than pushing the pen, need a Bryn Mawr graduate to write for us. . . . Among the things the proprietor of this column has learned over the years is never to disappoint a child. In the June class notes I recounted having visited Bob Day, '48, while in California, and being captivated by his little daughter. As a result, at hand is a sweet letter from Ruth-Lee saying she was thrilled at being mentioned. But between the lines it seems that some of her young friends were a bit skeptical, since she was not mentioned by name. Well, girls, it really was Ruth-Lee, and what's more, she got 100 on a spelling test and another 100 in arithmetic. Here in my hand are the papers to prove it. So you go learn your lessons too! . . . **Craig Hazelet**, Louisville area Second Century Fund chairman, is one of four to have already reached and exceeded the assigned quota for his group. . . . With our 45th Reunion not so far away, it might be well to ask, "Have you contributed to our 50th Reunion Fund?" Send it to **"Pete" Sanger**, 355 Lexington Avenue, New York 17, N.Y.

Perhaps the hardest lesson we ever have to learn is to say goodbye. **Arthur Hardy** and **John R. Markham** retired from their professorships at M.I.T. last June. No doubt both will still be seen around the campus. Bob Means, who with the happy letter, quoted above, concerning bathing at Nice and visiting Chamonix in the Alps, has said his final good-bye to all of us. He died on August 12, in Duxbury, Mass.—**F. Alexander Magoun**, Secretary, Jaffrey Center, N.H.

'19

It is with deep regret that we report the sudden death of **Wirt Kimball** in Belmont, Mass., on May 15. Wirt leaves his wife and a son, Clark. At the time of his death, Wirt was a sales representative of the Labour Company. . . . **Russell Savage**, former vice-president of the Mead Paper Company, has become head of the Department of Paper Technology at Western Michigan University. He has had years of experience in this field, as he organized the research department of the Mead Corporation, became Director of Research, and at the time of his retirement in 1947

was a vice-president and Director of Long-Range Planning. . . . The following members of 1919 attended Alumni Day in June: Marion Daniels, George W. McCreery, and Earl P. Stevenson. . . . **Earl P. Stevenson** represented Wesleyan University in the Convocation procession of the Centennial Celebration. . . . **Louis J. Grayson** is now listed in the 1961 Roster of the Million Dollar Round Table of the National Association of Life Underwriters. Every member of the 1961 Round Table must have sold at least a million dollars of life insurance in 1960 or must have attained Life membership by having sold a million yearly for three years in succession. Fewer than one per cent of the world's life insurance agents are Round Table members.

Alan G. Richards has joined the Bell & Howell Research Center as assistant to the director. Richards was previously executive vice-president of Bjorksten Research Laboratories, Madison, Wis., and for many years before that was with Dewey and Almy Chemical Company. . . . **Charles A. Chayne** was one of the hosts at the annual General Motors Conference for Engineering and Science Educators held in July at Warren, Mich. . . . **Bernard Coleman** sent an informative postcard, which unfortunately had to wait for this issue. He and Mrs. Coleman had a delightful Caribbean cruise last winter, and were aboard the "Santa Maria" at La Guara for a visit before the "pirates" came aboard. His sixth grandchild was born on St. Valentine's day. He would appear to be keeping busy as he is now treasurer of the Welfare Information Service, on the Steering Committee of the L.A. Association for Mental Health, and the County Supervisors Committee on Problems of the Aging, and chairman of the L.A. County Health Department Citizens Advisory Committee.

Frank P. Reynolds retired from Bird and Son, Inc., on May 31 after 36 years of service. At various times he had served as foreman, research chemist, and chief chemist and at the time of his retirement was director of research. . . . Mrs. Smoley and I spent 10 weeks in Europe last spring, which accounts for the absence of 1919 notes in the June and July Review. We drove in Austria, Southern Germany, France and England, and found it a lovely time of the year to be abroad. Our son, Eugene, Jr., was married in August to Elizabeth Snodgrass of Philadelphia, and is teaching mathematics at the McDonogh School outside of Baltimore. . . . The death of **Arthur H. Blake** of Wollaston, on June 3, 1960, has been reported. No other information is available. . . . The following change of addresses have been received: **Harold W. McIntosh**, Apt. 5M, 280 Bronxville Road, Bronxville, N.Y.; **James W. Reis, Jr.**, Apt. 11 G, 350 South Fuller Avenue, Los Angeles 36, Calif.; **Russell H. Savage**, Western Michigan University, Department of Paper Technology, Kalamazoo, Mich.; **Holden C. Priest**, 112 Pembroke Street, Boston, Mass.; **Kenneth F. Wood**, 13 Church Street, Framingham Center, Mass.; Professor **Herbert W. Best**, c/o Dr. Peter Nuel, Dominikaner Bastei 21, Vienna 1, Austria; **Ralph H. Gilbert**, 238 East 31st

Street, Brooklyn 26, N.Y.; **George B. Hirsch**, c/o Miss Betty Hirsch, 40 Lenox Avenue, East Orange, N.J. (Mr. Hirsch is in Europe for a year)—**Eugene R. Smoley**, Secretary, 30 School Lane, Scarsdale, N.Y.

'21

Greetings and welcome to our 41st year of recording the news of the Class of 1921 around the friendly fireside which brings our active group together each month in these pages. Hearty thanks to you for your super-splendid support of the Amity Fund, the SCF and our 40-Year Class Gift. As you know, if you attended Alumni Day or read about it in the last issue of The Review, our Class President, **Ray St. Laurent**, was privileged to announce to an amazed audience, following the luncheon, that our block-busting 40th anniversary gift had then reached the record proportions of \$440,300! We know that the people who worked so hard towards this gift would like to express their appreciation for your outstanding generosity to the Institute and for adding another "first" to the long list of creative undertakings in which the Class of 1921 has taken the lead. Besides Ray, the members of our Gift Committee and its chairman, **Irv Jakobson**, as well as Special Gifts Chairman **Mich Bawden**, Class Agents **Ed Farrand** and **Larc Randall** and the many members of the Class who serve the SCF in some capacity, all join your officers and committeemen in sincere thanks and a gentle reminder that your further gifts through the remainder of this year and during 1962 up to next Alumni Day on June 11, will continue to be added to our biggest Class Gift. Please keep on being generous!

Our 40th Reunion at the Shore Club of the Hotel Mayflower, Plymouth, Mass., from June 9 through 11 and the M.I.T. Centennial Alumni Day on June 12 in Cambridge brought 175 members of the class, their wives, children and guests. It was a happy group that began arriving at the comfortable villa on that lovely Friday afternoon and found a number of loyal '21'ers already enjoying the hospitality provided by the Reunion Committee, Mich Bawden, Chick Dubé, Chick Kurth, Phil Nelles, Larc Randall, Ted Steffian and Mel Jenney, Chairman. After the cocktail hour, an old-fashioned New England clambake was the order of the evening, but the coolness of the atmosphere on the beach determined that it be held in the hotel's dining hall. For the balance of the evening and far, far into the night, one indomitable group had to see all of the class pictures as provided by our photo historian, **Bob Miller**, all the way back to 1921, as well as color slides made at our class reunion in Cuba by Bob, Munnie Hawes and Cac Clarke; those made at our reunion in Mexico by Ray St. Laurent, Rufe Shaw and Chick Dubé, and some interesting views of Japan, taken by **George Gokey** and brought from Tokyo the day before by **Harry Field**, who attended the Rotary International convention there and flew to the

reunion via his home in Honolulu.

Also in this long distance category was **Saul Silverstein**, who flew in the day before from Rome, after his ninth trip to Belgium since 1952, representing the Council for International Progress in Management, plus a business trip to England, France and Italy. . . . Other distance record holders included **Jack and Jo Whipple**, who had just returned to the States from a diplomatic mission to the U.S. Embassy in Ceylon. Pending a new assignment, the Whipples drove up from Washington in a car sporting a Ceylonese license plate which caused much comment. . . . **Jack and Marge Kendall** represented Pasadena, Calif. . . . **Vivi and Maria Valdes** and their daughter, Carmen, traveled from their home in Mexico City. . . . **Rich and Mary Louise Clark** drove up from Baytown, Texas. . . . Saturday brought more of the class to Plymouth and saw many activities under way, among them golf, the tour of Plymouth and environs, swimming in the ice water of the bay and various groups just chatting on the broad verandas overlooking the beach. Two bus loads enjoyed the ride to "Plimouth Plantation" and the other spots of interest, including the "Mayflower II" and "the" Rock. An exhibit of 1921 memorabilia in the lobby of the Shore Club was a never-ending source of interest.

Saturday evening marked the most welcome arrival of our revered President **Jay Stratton**, '23 and his charming wife, both of whom received our sincerest thanks and appreciation for taking the time to visit with us at this unusually busy part of the school year. Typical of Jay's thoughtfulness and thorough preparation for whatever he does, was his presentation to your secretary of an original M.I.T. news release, dated June 9, 1921, humorously covering that day's 1921 Class Day events, chairmaned by **Jack Kendall** and including among the named performers Al Bachmann, Scripps Booth, Larry Burnham, Cac Clarke, Herb De-Staebler, Ev Harman, Rowland Hotchkiss, Al Lloyd, Jack Rule, Watts Humphrey and Miles Zoller. President Stratton brought official greetings from M.I.T. and gave a well-received informal address at the evening banquet, comparing the Technology of our times with the stupendous Institute as it is constituted and operated today. **Chick Kurth's** Nominating Committee presented the proposed slate of class officers, including a new office of vice-president, and the entire group was unanimously voted into office: President, **Ray St. Laurent**; Vice-president, **Irv Jakobson**; Secretary-Treasurer, **Cac Clarke**; Assistant Secretary, **Ted Steffian**; Class Agents, **Ed Farrand** and **Larc Randall**; Photo Historian, **Bob Miller**; 40th Reunion Gift Chairman, **Irv Jakobson**; Special Gifts Chairman, **Mich Bawden**; 45th Reunion Chairman, **Mel Jenney**.

Golf prizes went to these stalwarts: Ollie Bardes, Fritz Ferdinand, Buzz Burroughs, '20, Jeff Wilson, Munnie Hawes, Don Morse and Wally Adams. A specially appointed "legal committee" couldn't agree on the ground rules for the one coming the shortest distance and called it

a tie between **Mich Bawden**, with a summer home two miles away, and **Fred Rowell**, whose permanent abode is three miles distant. Mich won an antique chart of "Plimouth," and Fred was awarded the originals of Ted Steffian's beautiful drawings for our reunion mail notices, which he relinquished to Ted in view of the latter's "difficulties" getting to Plymouth from Boston. The long distance prize went to **Harry Field**. **Phil Coffin**, with 13 grandchildren, nosed out **Dug Jackson's** 12 for the award in that category. The prize for the handsomest and most eligible bachelor went to **Jim Parsons**. **Jack Barriger** and **John Mattson** were tied, with each having two children who attended M.I.T. Winners in other contests were: **Larry Buckner**, oldest grandchild (14); **Warrie Norton**, **Paul Rutherford** and **Al Wechsler**, each with twin grandchildren; **Ben Fisher**, youngest child (eight); Rufe Shaw, most black hair. Special mention went to Dug and Betty Jackson, married 43 years, and to Mich and Helen Bawden, parents of the class baby, who were celebrating their 41st wedding anniversary that evening. A gift of appreciation also went to Class Prexy, Ray St. Laurent. The men received M.I.T. glassware and the ladies were presented with 40th anniversary desk memo pads in red, emblazoned with dates and the Institute seal in gray. Maxine Clarke presented special souvenirs to the junior associates of the class: Susan Burke, Pat Nelles Oram and Carmen Valdes. Ruth Jakobson expressed the thanks of all the ladies for a delightful time at the reunion.

Sunday brought a continuance of planned activity and inactivity. A large group took advantage of Mich Bawden's arrangements to visit the Edaville Railroad at nearby Carver and had the time of their lives riding around the cranberry bogs on the narrow gauge line. Missing was the souvenir timetable formerly prepared and seasonally adjusted by Carlton Tucker, '18, of the M.I.T. Department of Electrical Engineering. The Sunday evening buffet at the Mayflower, amid the ice carvings, turned out to be a regal event and, regrettably, it marked the formal close of the reunion.

Monday morning saw most of the group from Plymouth convene anew at Cambridge with some new arrivals to constitute the largest class delegation to Alumni Day. Ray St. Laurent did the honors in presenting the Class Gift at luncheon in the Great Court, electrifying everyone, including the '21'ers, with the announcement of a whopping amount, which exceeded by \$100,000 the figure announced at Plymouth on Saturday! Only at the conclusion of the program did we learn the dramatic story of a most loyal and generous classmate who had that morning contributed the additional amount. Mich Bawden and Irv Jakobson had rushed the news to Ray at the head table a scant five minutes before his announcement. The vital symposium, the excellent dinner with 1921 seated together once more and the always enjoyable Arthur Fiedler and the Boston Pops in Kresge Auditorium concluded two memorable series of events for the Class of 1921.

Attending one or both were: Wally and Anne Adams, Ollie Bardes, Jack and Elizabeth Barriger, Mich and Helen Bawden, Scripps and Helen Booth, Charlie and Mrs. Breed, Dayton and Mrs. Brown, Larry and Mary Buckner, Buzz Burroughs, '20, George Chutter, Rich and Mary Louise Clark, Cac and Maxine Clarke, Phil and Edna Coffin, Joe and Mrs. Collins, Bob and Bertha Cook, Josh and Claudia Crosby, Elmer and Beryl Davis, Ed and Kathryn Delany, Chick and Maida Dubé, Ed and Helen Farrand, Fritz and Eleanor Ferdinand, Bob Felsenthal, Harry Field, Ben and Mary Fisher, Frank and Augusta Flaherty, George and Edna Gokey, Harry and Sarah Goodman, Judge Greene, Mark and Ann Hamburger, Gene Hardin, Bob and Doris Haskel, Don and Katherine Hatheway.

Also Munnie and Alex Hawes, Sumner Hayward, San and Velma Hill, Norman and Helen Insley, Dug and Betty Jackson, Irv and Ruth Jakobson, Jimmie and Lucie Janes and son, Bob, and their niece, Mel and Anne Jenney, Colonel Phil Johnson, Harold and Katy Johnston, Herb Kaufmann, Jack and Marge Kendall, Al and Grace Kiley, Chick and Laurie Kurth and daughter, Susan, Ivan and Margie Lawrence, Al and Emma Lloyd, Bill Loesch, Ted McArn, Ed and Winifred MacDonald, John and Elma Mattson, Bob and Helen Miller, Joe Morell, Don and Elizabeth Morse, Harry and Mae Myers, Phil Nelles and his daughter, Patricia Nelles Oram, Clint and Betty Newton, Warrie Norton, Ed and Kathryn Noyes, Charlie and Katherine O'Donnell, George and Muriel Owens, Jim Parsons.

And Norm and Betty Patton, Phil and Marion Payson, Elsie and Vivian Pelkus, George Pollock, Larc Randall, Bill Ready, Herb and Miriam Reinhard and son, Father William T. A. Reinhard, O. M. I., Admiral Larry Richardson, Harry and Ruth Rosenfield, Fred and Natalie Rowell, Jack Rule, Paul Rutherford, Ray and Helen St. Laurent, Sumner and Marion Schein, George and Anne Schnitzler, Steve and Mary Seampus, Bill Sherry, Saul and Rigi Silverstein, Ted and Lovina Steffian, Rufe and Madeline Shaw and daughter and her husband, Mr. and Mrs. Robert Scott, Harold and Louisa Stose, Lyall Stuart, Hank and Mrs. Taintor and her sister, Vivi and Maria Valdes and their daughter, Carmen, Art Wake-man, Bill and Anna Wald, Al and Ella Wason, Al and Pearl Wechsler, Joe We-nick, Ralph and Ruth Wetsten, Dinnie and Anna Whelan and their daughter, Anne Whelan Dennison, Jack and Jo Whipple, Jeff and Sarah Wilson, Dick Windisch. Telegrams and messages of congratulations were received from Asher Cohen, Bill Emery, Dan Harvey, Phil Hatch, Moose LeFevre, Archie Mock, Dick Morris, Charlie Morss and Mrs. Jack Waggoner.

Our editorial apologies for the omission of Warrie Norton's name from the list of those who marched in the academic procession at the M.I.T. Centennial observance; also for not having listed Larc Randall as the official representative of the Class of 1921 on the Centennial Committee; and for not recording that Chick

and Maida Dubé spent a month in Europe during March and April, including Easter in Rome, of which more later when we have the opportunity to see their picture record of these travels.

A long personal note from **Helier Rodríguez** told of his intention to leave Florida and take up residence in Spain. He deeply regretted that he and Graciela were unable to attend the reunion festivities, the first that he has missed, and he extended greetings to his many friends in the class. We have a note from Rufe Shaw in which he says: "On August 4, I had the privilege of taking Helier Rodríguez to luncheon at the Yale Club, New York. He was in town with Graciela and his mother en route to Spain where he plans to live. He can be addressed: Antonio H. Rodríguez, c/o Sr. Jose L. Valdes, General Mola 7, Madrid, Spain. I have received the pictures I took at the reunion and will send them to you for the class archives." We acknowledge with thanks an excellent series of color slides from Rufe. Any other contributions to our class treasury of pictures will be greatly appreciated.

Colonel **Harold O. Bixby** writes that his home address is in care of Dudley Hughes, West Gray, Maine, but that he is still in Asuncion, Paraguay, on business matters. . . . **A. Ilsley Bradley** gives his home address as 1010 Euclid Avenue, Cleveland 15, Ohio. . . . **J. Morton Briggs** has moved from Dayton, Ohio, to 59 Sweetwater Avenue, Bedford, Mass. Other new addresses are: **Gustav C. Dahl**, 101 Border Street, North Scituate, Mass.; **Paul L. Hanson**, 735 Hillcrest Way, Redwood City, Calif.; **Eugene A. Hardin**, 707 Moore Street, Baton Rouge, La.; **Eugene H. Kennedy**, 147 Westmont Street, West Hartford 7, Conn.; **William R. Matthews**, 707 Davenport Street, Richland, Wash.; **Harry M. Myers**, 57 Harvard Avenue, Brookline 46, Mass.; **Harry M. Ramsay**, 1787 Grand Avenue, St. Paul 5, Minn.; **Palmer Scott**, Westport, Mass.; **Harding D. Williams**, Apt. 201, 1527 Catherines Court, Jacksonville 7, Fla. **Ralph H. Wallace** says that he has retired and can now be reached via Box 4225, Ogunquit, Maine. . . . The names of **Charles L. Hutchings** and **Mrs. Donald K. Luke** (nee **Hildegard E. Merriam**) have been removed from the Alumni Register.

It is with deepest sorrow that we record the passing of five members of the class and extend the sincerest sympathy of the entire Class to their families. **Otto Ni-mitz**, Captain, U. S. N., retired, who was associated with us in Course XIII-A, died at his home in Kerrville, Texas, on February 9, 1960. . . . **James Leslie King**, Captain, U. S. N., died on March 4, 1961, at his home in Pasadena, Calif. He was associated with us in Course II.

Orrin Champlain, Jr., Course III, of Old Lyme, Conn., an engineer at the Navy Underwater Sound Laboratory, died on April 28, 1961. He was a member of the Alumni Association of Exeter Academy, Old Lyme Grange, New Haven Mineralogy Society, Astronomical Society of New Haven and the Philadelphia Mineralogical Society. He is survived by his wife, the former Lee Anna Wad-

leigh; three sons, Richard W., a student at La Salle College, Philadelphia, John G., a midshipman at the Naval Academy, and Orrin, 3d, at home; two daughters, Mrs. Lewis C. Hollee of Abilene, Texas, and Mrs. Frank Corsino of Old Lyme; two sisters, Miss Helene Champlain of New York City and Mrs. LeRoy Chevers of Weston, Mass.; and four grandchildren.

John Morton Gundry, Jr., Course XV, died in New York City on May 16, 1961. . . . Professor **Edward Robinson Schwarz**, Professor of Textile Technology at M.I.T. and a Fellow of the Textile Institute, died at his summer home in Ocean Park, Maine, on July 27, 1961. A graduate in Course II and a member of the Department of Mechanical Engineering at Technology since 1922, he was born in Lawrence, Mass., on March 4, 1899. He made his home in Melrose, Mass. He is survived by a son, Edward H., of Lawrence, Mass., and two daughters, Mrs. Robert W. Perkins, Sr., Ypsilanti, Mich., and Mrs. Kenneth E. Cox of Ocean Park, Mass.

Happy Thanksgiving. Drop a note to your secretaries and share your good cheer with the Class.—**Carole A. Clarke**, Secretary, International Electric Corporation, Route 17 and Garden State Parkway, Paramus, N. J.; **Edwin T. Steffian**, Assistant Secretary, Larsen, Steffian, Bradley and Hibbard, 711 Boylston Street, Boston 16, Mass.

'22

After a "long summer's nap" it is good to get back to the famous Class of '22 by reviewing the summer's activities in September for the November issue. Buffalo is still 75 degrees and sunny while our classmates in Houston are recovering from storm Carla. In June our president, **Parke Appel** and Madeline held their annual cocktail party on Old Farm Road in Dover with the usual hilarious and satisfying results. In attendance were Mr. and Mrs. C. Hall Baker, Mr. and Mrs. C. Yardley Chittick, Fred N. Dillon, Jr., Mr. and Mrs. Warren T. Ferguson, Mr. and Mrs. Morris H. Gens, Mr. and Mrs. J. M. Goodnow, Mr. and Mrs. Oscar H. Horovitz, Abbott L. Johnson, Professor and Mrs. J. H. Keenan, Mr. and Mrs. C. Randolph Myer, Fearing Pratt, E. A. Terkelson, Mr. and Mrs. Wilfrid M. Thomson, Robert Tonon, and Mr. and Mrs. Everett W. Vilett. In addition to those at the cocktail party, the following attended Alumni Day on Monday: E. H. Eacker, Whitworth Ferguson, Valentine Gahnkin, T. T. Miller, V. A. Ronkanen, William Russell, H. M. Shirey, Frank T. Westcott, Bertha S. W. Dodge, G. Dewey Godard, Leon S. Medalia. . . . The private and confidential report on our Class Gift to June 12 including Alumni Fund and pledges, S.C.F. pledges, and direct gifts to M.I.T., totals \$430,000. This means that in less than a year the greatest effort yet must be put forth for the 40th Anniversary gift to be presented in June, 1962. Our slogan is, "Let's make it a Million." . . . **Don Carpenter** gained a

son from Western New York at the June marriage of his daughter Judith to John Herdeg of Gowanda. We wish them great happiness. John spent the summer gaining experience in our district attorney's office.

Oscar Horovitz was listed at the top of "Who's Who in Exhibition Photography." Oscar is famous both for the M.I.T. film, "The Social Beaver," and "The Israeli Story." . . . **L. F. Hickernell**, Vice-president of Engineering of the Anaconda Wire and Cable Company, received an honorary degree of doctor of engineering in June from the Polytechnic Institute of Brooklyn at the 106th Commencement exercises. He was elected to the Board of Directors of the Engineering Foundation in April and of the Electrical Historical Foundation last December. . . . **Arnold W. Milliken**, Vice-president and General Manager of New York State Electric and Gas Corporation, was in Buffalo in June to speak before a group of engineers. Arnold officiated at the opening of the new Dispatch Center and Operational Headquarters for the Western New York division of his company. He promises to be with us at the 40th Reunion. . . . **A. Robert Tonon** has told of his trip to Japan in May which started out as a few days and lasted a month. Bob is enthusiastic about Tokyo and business activity in Japan. . . . **David M. Brody** has been nominated for the Board of Directors of the M.I.T. Club of New York. We are all invited to the club rooms in the Biltmore Hotel. A picture in the July SCF Newsletter includes on the first Varsity crew: John C. Molinar, Horace W. McCurdy, Wilbur J. Woodruff, Clift R. Richards, a manly looking lot. . . . **Herbert O. Albrecht** of Springfield, Pa., has been active in a radiation survey of local sand and gravel quarries for the Bartol Research Foundation of the Franklin Institute. The interest is to concoct a special concrete using sand and gravel with "low background" radiation to allow more sensitive experiments. Bartol plays a significant role in the country in nuclear research and special research programs.

Miss Alison T. Strieder, daughter of Dr. **John W. Strieder** was married in August to Mr. John Mayher. The couple will live in Cambridge where John is attending Harvard Graduate School of Medicine. . . . Our sympathy is extended to the bereaved families of several members of the class: **William T. Rich, Jr.**, of Vero Beach, Fla., formerly of Andover and former president of Milton Leather Board Company, and the Commonwealth Supply Co., died unexpectedly in June while visiting his brother in Newton. He leaves his wife, the former Elizabeth Chalfant, and two sons. The class has received a memorial from James S. Chalfant of Portland. . . . **Stanley D. Hartshorn** of Henderson Harbor and Radnor died in July after suffering a heart attack. . . . A memorial service was held in May for **Kenneth Cunningham** of Irondequoit, N. Y. Ken retired in 1954 after nearly 32 years of service with Kodak, specializing in export as well as motion picture film. During World War I he was a pilot with the Signal Corps and the Royal Air Corps. . . . Captain **Paul W. Hains** died

in June at the Lawrence Memorial Hospital, New London. He supervised the raising of ships sunk by the Japanese at Pearl Harbor and spent seven years in New London as Chief Inspector for the Electric Boat Company.

Dexter N. Shaw of Philadelphia writes that he enjoyed a reunion with **Walt Saunders** and Roscoe H. (Doc) Smith, '23, over lobsters in Maine in July. . . . **Peter T. Lamont**, Vice-president and Director of Standard Oil Company of New Jersey, has retired after 39 years of service. Much of his career was spent abroad, and he is recognized throughout the industry as an authority on petroleum marketing in Europe. As a commander in the U. S. Navy he participated in the Normandy invasion as operations officer in charge of tankers supplying gasoline and oil to the U.S. beach heads and captured ports. After the War he was involved in Europe rebuilding facilities, acquiring new properties and reorganizing staffs for Jersey. . . . General **William M. Hoge** announced his retirement in April as Chairman of the Board of Interlaken Iron Corporation. He will continue to serve as director and consultant. During World War II he served as an armored division commander and it was under his direction that American troops captured the Remagen Bridge. He served in four campaigns in Korea as a lieutenant general and retired as Commander-in-Chief of the U.S. Army in Europe and commanding general, Central Army group, NATO. . . . **Barrett Grant Hindes** of San Francisco received an honorary doctor of laws degree from President M. Norvel Young of Pepperdine College in May. Mr. Hindes is the retired head of the San Francisco Bridge Company, and is well-known to all construction men as a builder and scholar. He was a captain in the navy during the last war and has been a director and member of many organizations and businesses.

The Class Reunion program is continuing. Plans are to meet on June 7 to 10, 1962, at the New Ocean House on the shore in Swansboro. Please mark your calendars. Direct information and an opportunity to make advance reservations will be mailed real soon. . . . **A. F. Robertson**, "The Old Prospector," writes that he is doing fine while recovering in the Massachusetts General Hospital. He continues to take pills for his leg injury. . . . The most sincere sympathy of many friends and classmates goes to **George Dandrow** in the loss of our friend Helen who died September 2 at the Memorial Hospital in New York City after a long illness. She was a great friend of many of us and will be missed by all. She is survived by two sons, Thomas F. Maguire of Valhalla, N. Y., C. George, Jr., a student at Purdue University, a daughter, Carol Elizabeth (Mrs. C. N. Cornish, Jr.) of Bronxville, and four grandchildren. Among new addresses are: **John A. Blaker**, 34 Albert Street, Auburn, Mass.; **Stanley W. Boyd**, Route 2, Newport, R. I.; **George E. Taylor**, 6288 Calle Vera Cruz, LaJolla, Calif.; and **Edward L. Winslow**, Sound View Road, P.O. Box 55, South Harwich, Mass.—**Whitworth Ferguson**, Secretary, 333 Ellicott Street, Buf-

falo, N.Y.; **C. George Dandrow**, Assistant Secretary, Johns-Manville Corporation, 22 East 40th Street, New York, N.Y.

'23

Well here we are starting another season of monthly class notes, in an effort to keep you up to date on some of the interesting things your classmates are doing. How about dropping me a line about yourself and family to increase the value of this section of The Review? . . . Your class was well represented at the Alumni Day activities held on June 12 with the following in attendance: Horatio and Mrs. Bond; John E. Burchard; E. Louis Greenblatt; Earle A. and Mrs. Griswold; Franklin K. and Mrs. Haven; George A. Johnson; Egon E. and Mrs. Kattwinkel; David and Mrs. Kaufman; Hyman F. and Mrs. Marshall; James A. and Mrs. Pennypacker; Paul R. and Mrs. Plant; Howard F. and Mrs. Russell; David W. and Mrs. Skinner; Julius A. and Mrs. Stratton; Dorothy W. Weeks; Earle Sanborn.

Mrs. Hayden and your secretary-treasurer were unable to be on hand for the Alumni Day festivities (the first time we have missed them for a long time), as we spent the month of June touring through the Southwest, the far West and the Northwest. We drove over 10,000 miles and had a marvelous trip; visiting with friends in California and dropping in on some of our grandchildren in the Chicago area. . . . **Rod Goetchisu** was the speaker at the April meeting of the Montclair Society of Engineers. His subject was "Communication with America's Man in Space—Project Mercury's World-Wide Tracking and Communication System." Carole Clarke, secretary-treasurer of the Class of '21, to whom we are indebted for this information, comments as follows on Rod's talk: "Excellent presentation and very timely, in view of Commander Shepard's suborbital trip into space a few days later." As you know, Rod is with Western Electric and is project manager of the industry team constructing the tracking and ground-instrumentation system for Project Mercury. Nice going Rod. Being a former member of the Montclair Society of Engineers I know that your talk was of tremendous interest to this group as evidenced by Carole Clarke's remarks.

The Sunday, July 23, issue of the New York Times had a several column article (with a fine picture) about our good friend **Eger V. Murphree**, entitled "Personality—Habit is Heresy for Inventor." He had just been granted his 34th patent which covered a process for increasing the recovery of oil from shale and other oil-bearing solids by a new method of heat treatment. Eger is president of the Esso Research and Engineering Company and thus heads the largest oil research concern in the country. The article gives a very interesting account of his professional accomplishments. . . . The July-August issue of the Du Pont publication "Better Living" had a very interesting article by **Henry Belin du Pont**, a vice-presi-

dent of the company, on "Needed—More Technology." He said in part: "To recite the good things which technology has brought to the American people is to examine practically every thread that runs through the fabric of American life today. . . . In addition a technological society such as ours has great need for highly trained people. . . . And, technology, as applied in the fields of medicine, surgery, health and nutrition, has lengthened and enhanced the lives of all of us. Life expectancy has increased considerably in the last 50 years. We are healthier than our parents and our children are healthier than we are. . . . All this, of course, is well known," says Mr. du Pont. "What is not so well recognized is the fact that one of the great forces responsible for the growth of technology in the U.S. has been the industrial corporation." . . . **Stephen B. Metcalfe** has joined the rank of retirees. Stephen has been an executive of the American Steel and Wire Company for many years with headquarters in Worcester, Mass. . . . Two members of our class, **Robert S. Sprague** and **William Webster**, are members of the Board of Trustees of the Mitre Corporation. . . . **Dorothy W. Weeks** is working enthusiastically on the Second Century Fund, seeing people throughout the country in the course of her business travels. She is affiliated with the U.S. Army at the Watertown Arsenal. She was also recently named professor emeritus of physics at Wilson College.

The summer months have taken their toll, and it is with a great deal of regret that I report the following deaths: **Stanley D. Hartshorn** died on July 15 at the Watertown (New York) Hospital where he suffered a massive coronary. Stan had been president of the Trans-Weigh Company and the Trans-Weigh International Company. A short time before his death he had sold his business interests and had plans to retire and enjoy life traveling, etc. Stan is survived by his adorable wife, four lovely daughters, all married, 12 grandchildren, and one sister. Stan started with the Class of '22 and his home was in Radnor, Pa. . . . **Rodolphus K. Turner** died on July 18 at his home in Larchmont, N.Y. He had been with Union Carbide Corporation since 1924, when he joined Union Carbide Chemicals Company at Clendenin, W. Va. He moved to the Plastics Company in 1952 as a vice-president and was appointed president of that division in 1957. He was elected a vice-president of Union Carbide Corporation last month. Mr. Turner was a member of the American Institute of Chemical Engineers, Pinnacle Club, Larchmont Yacht Club, Larchmont Volunteer Fire Department, Larchmont Manor Society, the M.I.T. Clubs of New York and Westchester, Newcomen Society, and the New England Society. He is survived by his wife, Elinor Merrill Turner, a son, George K. of Palo Alto, Calif., four daughters, and 14 grandchildren. . . . Professor **Edward R. Schwarz** died on July 27 at Notre Dame Hospital in Biddeford, Maine following a heart attack. Professor Schwarz was head of the Division of Textile Technology in the M.I.T. Department of Mechanical Engineering. He also was in

charge of the Samuel Slater Memorial Research Laboratory. A native of Lawrence, Mass., he was a 1923 graduate of M.I.T. He became an instructor in 1925 and a professor in 1937. During World War II, he served on a special committee for liaison between the Army Quartermaster and the synthetic fiber industry. He was a founding fellow of the Textile Research Institute and served as its vice-president and as director of editorial policies for its publication "Textile Research Journal." He was also a fellow of the British Textile Institute and American Association for the Advancement of Science. He had been awarded the Olney Medal of the American Association of Textile Chemists and Colorists, and the Harold DeWitt Smith Memorial Medal of the American Society for Testing Materials; he was one of the few who received both awards. He leaves a son, Edward H. of Lawrence; two daughters, Mrs. Robert W. Perkins, Sr., of Ypsilanti, Mich., and Mr. Kenneth E. Cox of Ocean Park.

We wish to report the following address changes: **Frederick H. Bush**, Las Quintas, Cuernavaca, Mexico; **Arthur W. Davenport**, P.O. Box 574, Virginia Beach, Va.; **Charles J. Flanigan**, 117 Madbury Road, Durham, N.H.; **Forrest G. Harmon**, 1230 Oaklawn Road, Arcadia, Calif.; **Miss Myrna S. Howe**, 650 Indian Hill Boulevard, Claremont, Calif.; **Hou Y. Hsu**, Jardine Engineering Corporation Ltd., P.O. Box 517, Hong Kong; **Joseph T. Martin**, P.O. Box 62, Dunkirk, Ind.; **John B. Nason, Jr.**, 1242 Catalina Drive, Monroeville, Pitcairn, Pa.; **John E. Verner**, 4581 Warm Springs Road, Glen Ellyn, Calif.; **William W. Vicinus**, 308 Main Street, New Canaan, Conn.; **Norman L. Weiss**, 813 Valley National Building, Tucson, Ariz.; **Herbert E. Wilks**, 51 Sharon Road, South Hamilton, Mass.—**Herbert L. Hayden**, Secretary, E. I. du Pont de Nemours & Company, Leominster, Mass.; **Albert S. Redway**, Assistant Secretary, 47 Deepwood Drive, Hamden 17, Conn.

'24

Wish we could start the season with a rousing windup of the Lehrer Saga. Presumably they're home long since, but since Ray hasn't reported in we'll just have to leave them in the air for the moment. Maybe we can get them back on the ground in the next notes. . . . One traveler who was tracked down via a magazine ad is **Dave Meeker**. Maybe you saw the U.S. Lines ad last spring headed "Your favorite vacation address is aboard the world's fastest ship, the S.S. United States." Topping the page was a color photograph captioned "At Purser Gehrig's table: Mr. and Mrs. David A. Meeker, Troy, Ohio (he is president of Hobart Manufacturing Company) and the Honorable Mrs. Butterwick and Mr. J. C. Butterwick, Penn, Bucks, England. He is a director of Sotheby and Company, the well-known auctioneers. You dine on finest delicacies from five continents." Only identifiable delicacies in evidence were a fine bunch of carnations and a

bottle of wine. Not being privy to British customs, your secretary wonders why Mr. Butterwick, too, is not honorable? Is it that auctioneers are dishonorable?

Undoubtedly because of the big affair in April, our class attendance at Alumni Day was a bit slim. The Blay Atherton's, Wil Gilmans, Bill MacCallums with daughter Sandy, Herb Stewarts, and your secretary and wife, along with Ave Ashdown, Nate Schooler, Joe Mares, and Dick Walker made up the contingent. . . . The **William Dennison Rowes** were still around, but they were going to school at that time at B.U. in preparation for Bill's new assignment in Africa. They had expected to go to Tunisia for ICA, but changing situations changed their destination. They were headed for Nigeria instead. . . . A welcome letter from **Chris Conway** brought the news that he is now a Greenwich Villager. Chris is with A.T. & T., traveling all over the country on mechanization of long-distance lines. Mrs. Conway died a year ago after a long illness. There is a daughter at the University of Miami and a son and family in Philadelphia. Part of the family is grandson Christopher, 4th. That "4" indicates line of descent, not age. He was born last June.

Guess The New York Times must read these columns, because in June they carried a story headed "two students at M.I.T. Become Churchmen." All about the Reverend **Denton Massey** and Bishop **James Wong**. One thing, though, did not come out of our story, and personally we doubt if it ever happened. The Times piece starts: "More than 30 years ago two young engineering students at M.I.T. worked together on a project." That sounds like a flight of reportorial imagination. . . . From somewhere a clipping from a Mexican paper arrived on your secretary's desk headed "Arribaron Ayer A Esta" and with a smiling portrait of "el general **James C. Doolittle**, heroe de la Segunda Guerra Mundial" at the head of the column. Having no interpreter ready at hand, about all we can tell you of the story is that Jimmie arrived "en el Jet Champagne Flight de Western Airlines." We could make out one thing, however, and in case you are ever called on to fill out the initials M.I.T. in Spanish, its "Instituto Tecnológico de Massachusetts." . . . Late in May San Franciscans held a World Trade Week, complete with greetings from the mayor, an International Ball, and a "Miss World Trade, 1961." **Royce Greatwood**, president of California Greatwood, Inc., was deputy chairman.

Sorry to have to report a number of deaths: **George G. Salsman** died in June. He had been with the Massachusetts Department of Public Works for 34 years as surveyor and engineer. He was a Mason and a member of St. Peter's Episcopal Church of Buzzard's Bay, where he lived. George leaves his mother and two brothers. . . . Many of you will remember **Walter A. Dunham**, a Course VI graduate. Walter was considerably older than most of us, having made up his mind late to go to college. For 20 years the Dunhams had lived in California, where recently he was an engineer with the Harvey

Aluminium Company. A letter from Mrs. Dunham to **Hank Simonds** has a paragraph that must certainly sum up the feelings of all husbands or wives who suddenly find themselves alone in the world. "It is lonely. I think I can manage in big things but in small things I miss him very much. I find one needs someone for watching television, and doing crossword puzzles, and looking up new words in the dictionary, and reading amusing bits from books." . . . Three other deaths that must be recorded are those of **Dr. Henry M. Tracy**, a physician in Wallingford, Pa.; Lieutenant Commander **James W. Costello**, U.S. Navy retired, and **Reuben J. Miller** of Waterloo, Iowa. We have no further details.

Flipping over the calendar pages, I see it would be opportune about now to wish you a Happy Thanksgiving, and that I do. We'll skip mention of Armistice (or Veterans') Day.—**Henry B. Kane**, Secretary, Room 1-272, M.I.T., Cambridge 39, Mass.

'25

On entering a new year, it is necessary to complete the reporting of the past year with reference to class attendance at Alumni Day activities. A number of the old standbys did not show up in 1961, but this was probably due in part to the fact that so many had been present for the Centennial Celebration a few weeks earlier. In attendance at one or all of the activities of the day were Dr. and Mrs. F. Leroy Foster, Mr. and Mrs. David Goldman, Mr. and Mrs. Robert Hodson, Masaru Kametani, Edwin E. Kussmaul, Mr. and Mrs. Mac Levine, and Mr. and Mrs. Henry C. Trask.

Those of you who were not fortunate to attend this year missed the rare opportunity of spending some time with **Masaru Kametani**. "Kammy" was in this country on business representing Ishikawajima-Harima Heavy Industries Company, Ltd., of Tokyo, of which he is assistant to the general manager, Aircraft Engine Division. He was able to plan his visit, which was taking him to many places in the United States, so that he could be here for Alumni Day; and everyone in attendance found him to be a most delightful person. Those of you who remember him as a student know this well; those who met him for the first time now realize what they had missed during student days by not having been acquainted with him.

Recent letters from "Fran" Cunniff indicate that he is now located at 2531 S. W. Hillcrest Drive, Portland 1, Ore. "Fran" is rear admiral, U.S.N., retired, presently serving in the capacity of resident engineer for Frederic R. Harris, Inc., Consulting Engineers, New York City, on the construction of a 27,000-ton capacity steel floating drydock being built for The Port of Portland Commission of the state of Oregon. "Fran" finds this job presents quite a challenge. . . . A clipping from the Herald News, Passaic, N.J., notes that **Wilder E. Perkins** recently completed 35 years service with the Manhattan Rubber Division, Raybestos-Manhattan, Inc.

He was honored by plant officials and associates and received a 35-year Manhattan Pioneer pin with two diamonds. His present position with the company is that of factory manager. . . . Two classmates called on your secretary during the latter part of July; but unfortunately being on vacation, I missed seeing **Fred Cunningham** and **Bob Read**.

I am sorry to have to report two deaths during the summer. **Arthur F. Morash** passed away in Belmont, Mass., on July 12, 1960. . . . **Kenneth W. Robie**, one of our more active classmates in connection with reunions, died suddenly at New London, N.H., on August 18, 1961, while on a short vacation. Ken, of course, was superintendent of the Highway and Water Department of the Town of Brookline, Mass. The esteem in which he was held by the town officials in Brookline was very well expressed by the executive secretary of the Board of Selectmen. This statement follows: "In the untimely death of Kenneth W. Robie, the Town has lost a most valued and trusted public official. Mr. Robie was graduated from the Massachusetts Institute of Technology in 1925 and entered the service of the Town as a Civil Engineer in 1935. His capabilities having been ably demonstrated, it was logical that he would be advanced to Assistant Superintendent of the Water Department in 1942, later succeeding to the position of Water Superintendent in 1952 upon the retirement of Mr. Bushway. He assumed in 1959 the additional duties of Superintendent of Streets, a position he has filled with honor and distinction. He gave so much to his work and wove the threads of his personality so deeply in our affection that it is almost impossible to express the sense of loss which we all feel in his passing. Possessed of a keen analytical mind, a wholesome sense of humor and a rich background of experience, he was always an outstanding figure among town officials. He was firm when the interests of the Town were at stake yet compromising in his attitude when justice and the circumstances required. The exact and thorough public servant, he discharged the duties of his office in a manner so admirable as to reflect great credit upon himself and his municipality. His record shall stand as an inspiration to those who are chosen to follow in his path." Those of us who knew Ken certainly know that he was deserving of all of the fine things said about him.—**F. L. Foster**, Secretary, Room 5-105, M.I.T., Cambridge, Mass.

'26

Writing the notes on a plane seems to have become a habit. Having just taken off from O'Hare Field in Chicago in a 707 destined for Boston, the announced flying time is one hour and 40 minutes, and breakfast is to be served. There will be no time to waste. Bob Van Patten-Steiger, '36, is snoozing in the seat next to me and before dozing off expressed dismay that I should be working when there was such an excellent opportunity for relaxation. I have a sound reason for writing

the notes, since last weekend I purchased a new Star boat, and I cannot wait to sail tomorrow when I normally would be composing the notes.

This being the first issue of notes since our 35th Reunion, let's talk about the reunion. The Motel Belmont proved to be the ideal spot and 78 of the class attended. As you know, the committee relaxed a long-standing policy to the extent that arrangements were made for wives to attend although no activities were planned for them. Twenty-three wives came. Saturday was not a good day, but the golfers made it OK and the clouds burned off on Sunday for a pleasant finale. I heard that a few hardy souls even went swimming on the private beach, but the more active sports were horseshoes and putting on the green. Reunion Chairman **Bob Dawes** sent me a list of those who attended, but it would take all of our allotted space to print a list of names, so I'll ad lib and mention a few I saw or heard. Yes, the **Kellys, Austin and Bird**, were there in force and made the occasion a memorable one for **John Edward Walker** by bringing him along to his first reunion. **Jack Larkin** was really astonished to see Johnnie. . . . I have a color slide of Bird and Austin on Sunday morning embracing a huge vase of flowers that was presented to them by **Stark Draper**. I have another flash slide of Mrs. Stark Draper taken on Saturday night waving a finger at **George Edmonds** as though he were really being told off, but the expression on his face indicates that she is making no impression at all. . . . The crowning event at every reunion is the **Shepard-Mancha** banjo duet; it was better than ever this year, and I was able to flash a color slide to prove it. It's a real effort for these boys to carry their banjos to reunion to entertain us, at least for Ray coming from Florida. To Dave in his DC-3, I offer less sympathy. However, the effort is recognized and appreciated by every classmate. . . . The committee, as mentioned above, headed by **Bob Dawes**, included the usual core of helpers: Pine Salmon, Jack Larkin, Bill Meehan, Joe Levis and Don Cunningham, so I need not tell you that everything went like clockwork. . . . Since the reunion I have a couple of items on committee members. Bob Dawes and his wife sent us an announcement of their daughter Sarah's wedding on August 6 to Richard Bailin. . . . On July 1 **Chenery Salmon** became one of the eight general partners in Coffin and Burr. Both of these are pleasant items to report. . . . We must also report two unpleasant happenings since reunion. **Martin Bergen** mentioned at reunion that his wife was very ill, and **Howard Humphrey** has written us that she died in August. . . . **Bill Latham** has sent us a clipping telling of the death on July 19 of **Richard S. M. Lee**. Dick never missed a reunion, and we are most grateful that he attended this one. In Bill's letter he says, "Dick and I used to get together frequently when I was in New York and he was about the closest friend our family had." For the class I extend deep sympathy to Martin Bergen and to Mrs. Richard Lee.

I haven't covered too much of the re-

union, but there's always another issue coming up. The pilot has just announced that we are passing over Albany and are starting our descent into Boston where we will be landing in 17 minutes. That gives just about time to wind up the notes, pack up the brief case and sit back and relax for a few minutes. Before signing off I can report that my constant requests for each of you to write is starting to pay off. I receive a letter or card now and then and hold them in the reserve file to use when I run out of steam. I'm looking for your note now! May all of you have a pleasant Thanksgiving!—**George Warren Smith**, Secretary, c/o E. I. duPont de Nemours and Company, 140 Federal Street, Boston, Mass.

'27

There is a reasonable amount of class news to report after the summer. Just as a matter of interest, we decided to make a quick survey of our files to see how many of our classmates have been referred to in the Class Notes over the last 16-and-a-half years. The estimate shows that a total of 415 persons have been mentioned during this period. This has been accomplished either by direct personal contact or by receiving news items concerning them from various sources. We think this is a pretty good showing for our class and indicates we take an active interest in the Class Notes. The corollary of the above 415 figure is the Institute's continuing assessment of the number of active members in each class. For the past few years the "active" count for the class of '27 was set at 594, but as of this spring this number was reduced to 542, after excluding those who have died and those living but with whom it is not believed that any further contact can be established. This is a reduction from an estimated 800 who at one time or another have been on the basic '27 roster.

Edward Leach has been named to the board of directors of the Microsonic Co., of Hingham, Mass. This company was recently purchased by the Sangamo Electric Company of Springfield, Ill., of which Ed is a vice-president and with which company he has been associated for the past 16 years. . . . A few months ago we heard through the Institute that **Robert C. Wallace** had moved from Western Springs, Ill., to Rocky River, Ohio. Bob says, "As you may know, in 1958 the White Motor Company acquired the Diamond T Motor Car Company and made it a division. At that time I became director of engineering of the division. Late in 1960 it was decided to transfer all manufacturing of Diamond T products to our Lansing Division at Lansing, Mich., but to keep the executive offices in Chicago for a while at least, so I stayed on in Chicago hoping that this would continue for a few more years, but late in February White Management decided that I should transfer to Cleveland so, as of April 1, I am with the parent company as assistant chief engineer. Things do change rapidly sometimes. Our married daughter lives in Clarendon Hills, Ill.

and our son is finishing graduate business school this June, having received his bachelor of science in M.E. at Purdue two years ago. I am looking forward to the 35th Reunion a year from now. Should I get to New York, I will indeed give you a call." . . . The Colorado Fuel and Iron Corporation announced the appointment of **Fordyce Coburn** as director of purchases at their Pueblo Plant, Pueblo, Colo., effective May 1. Dice was thoughtful to send us this information, with the following note: "We hope to be ready to move the family to Pueblo early in September. The roots are pretty deep after 17 years in Wyomissing, Pa., but we are looking forward to new friends on the eastern slope of the Rockies! The latchstring will be out for 'visiting firemen' from the Class of '27 who find their way to southeastern Colorado."

Here are those who attended the Alumni Day exercises on June 12: Mr. and Mrs. Dwight C. Arnold, Mr. and Mrs. Robert M. Bigelow, Mr. and Mrs. John J. Boyle, Mr. and Mrs. Michael R. Campbell, Edward Chase, Elwood A. Church, Mr. and Mrs. James F. Collins, Mr. and Mrs. Arthur J. Connell, Mr. and Mrs. Gerard F. Flaherty, George C. Houston, Mr. and Mrs. Glenn D. Jackson, Jr., Mr. and Mrs. Frank Marcucella, Hector A. Moineau, Sara A. Scudder, Mr. and Mrs. Ezra F. Stevens, William L. Sullivan, Mr. and Mrs. William L. Taggart, and Mr. and Mrs. Clarence L. A. Wynd. . . . As to our 35th Reunion, the question of our being able to have it at Oyster Harbors has not been settled definitely at this time, but the outlook is very promising according to latest reports. We will keep you advised on this.

It is with regret that we report the death of **Miss Mildred S. Moses** on May 12, 1956, in Freeport, Maine. . . . We all regret to announce the death of **William T. Maguire** on July 10, in East Orange, N.J., after an illness of two weeks. Bill was an electro-chemical engineer with the Western Electric Company, Kearny, for 32 years. He was a graduate of Haverford College and also held a graduate degree from M.I.T. Born in Wayne, Pa., he made his home in East Orange for 35 years. He was a former president of the Newark branch of the American Electroplaters Society; also, he was a member of the Electro-Chemical Society and the Stanley Holmes Chapter, Telephone Pioneers of America; and was active in M.I.T. alumni affairs. Bill is survived by his wife, Mrs. Lorraine Gold Maguire, and two daughters, Miss Margaret Maguire, at home, and Mrs. Sally Tobin, of Pensacola, Fla.

Under the auspices of the Christian Science Society, Milford, N.H., **Charles M. Carr**, of Montclair, N.J., a member of the Christian Science Board of Lecture-ship, spoke in the Cathedral of the Pines, Rindge, N.H., recently, his subject being "How Christian Science Can Help You." Charles withdrew from business in 1942 to devote his full time to the public practice of Christian Science and, ten years later, became an authorized teacher of Christian Science. He served from 1944 to 1954 on the Christian Science Committee on Publication for New Jersey. . . .

Louis F. Pike has been appointed to the staff of the Milford, Conn., High School where he will teach mathematics. Louis holds a bachelor of science degree from M.I.T. and is enrolled at Trinity College for a master of arts degree. . . . Dr. **W. A. Zisman**, U.S. Naval Research Laboratories, was one of the speakers at an international symposium on Adhesion and Cohesion held July 24-25 at General Motors Research Laboratories. One hundred twenty-five scientists from academic institutions and industrial organizations were invited to attend and 14 papers were presented. The symposium was the fifth sponsored by G.M. Research Laboratories since 1957 on such subjects as friction, internal stresses and fatigue in metals, theory of traffic flow and rolling contact phenomena.

We noted last spring that the **Royal Wellers** were looking for a place to live away from the frozen north. Recently, the Institute sent us a new California address for them, so we wrote to Roy asking for any news he might have about himself for the Class Notes; we received the following Weller Newsletter: "We are now in the San Francisco Bay area—more specifically at the following address: 2011 California Street, Apt. 5A, Mountain View, Calif. (Phone, YOrkshire 8-1882). This is a somewhat temporary domicile. We hope to buy a house shortly. If anyone writes to the above address without success, try again at: P.O. Box 1146, Mountain View, Calif., or look us up in one of the local phone books. Roy is now director of engineering for the Space Systems Division of Lockheed Missiles and Space Company, Sunnyvale, Calif., having checked in on June 19. Visitors to the Golden State are welcome to share our roof and board, especially if they have contracts for Lockheed. Our vacation was most successful. We covered a lot of miles by flying machine, but, unfortunately, never got to the South Pacific. We often wonder why we left California in 1957. And we recommend that you urge everyone not already here to stay away so it won't get overcrowded and we can continue to enjoy it. As this is written Betty has left for El Segundo to preside over the arrival of our second grandchild. The address is: Dave and Gail Catlin, 829 Pepper Street, El Segundo, Calif. By the time this gets mailed the show will probably be over. If you want more details, write us. No promises are offered with respect to further news except that, many years from now when Roy retires, we will try to give some sort of instructions for finding us. In the meantime: Hasta la vista, Aloha, etc.—Roy and Betty Weller."

A couple of interesting items appeared in the July M.I.T. SCF Newsletter. First, **Clarence L. A. Wynd** has completed his term as president of the Alumni Association of M.I.T., and has been succeeded by D. Reid Weedon, Jr., '41, as the 68th president of the Association. The other item advises that the Second Century Fund has passed the \$40 million mark toward its goal of \$66 million. Mention of this was made at the Alumni Day Luncheon by Dr. James R. Killian, Jr. and John J. Wilson, General Chairman of the SCF. . . . The following new addresses

have been received: **Charles A. N. Armstrong**, 205 South Nineteenth Street, (Room 206), Omaha 2, Nebraska; Colonel **William P. Berkeley**, 6222 Old Troy Pike, Dayton, Ohio; Professor **Morgan Collins**, 2220 Londonderry Road, Ann Arbor, Michigan; **Albert A. Peer**, 600 Dunn Avenue, Lancaster, New Brunswick, Canada; and Colonel **William F. Sadler**, 3722 Albemarle Street, NW, Washington, D.C.—**J. S. Harris**, Secretary, Shell Oil Company, 50 West 50th Street, New York 20, N.Y.

'28

Alumni Day activities on June 12 were attended by Arnold Archibald, Beryl and Elbridge Atwood, George Bass, Max Bearon, Rose and Maurice Beren, Sydney and Sid Brown, Bill Carlisle, Mary and Dud Collier, Frances and Jim Donovan, Helen and Bob Harris, Ethel and Thrus-ton Hartwell, Ralph Jope, Sam Weibel, and Ruth and Abe Woolf. Speaking of pleasant class gatherings, it is not too early to start your plans for the 35th Reunion. It is only 18 months away—make up your mind now that you will be there!

The Holyoke, Mass., Transcript-Telegram for April 27 carried the announcement that **Harold Bialkowsky** had been appointed assistant to the president of Stora Kopparberg Corporation, New York, where he will be in charge of cellulose research and product development. Harold was graduated in Course XIV, then received his M.S. and Ph.D. degrees at the Institute of Paper Chemistry at Appleton, Wis. His professional career has included the positions of research engineer for American Writing Paper Corporation (Holyoke); technical director, Gilbert Paper Company, Menasha, Wisc., 1933-41; technical director, Pulp Division, Weyerhaeuser Timber Company, Everett, Wash., in 1941; and research director of the Pulp and Paperboard Division of Weyerhaeuser, Longview, Wash., in 1948. The Bialkowskys (wife, Erna) have two children: Karl W. of Stevenson, Wash. and (Mrs.) Ann E. Rosebeck of Middlebury, Vt.

William J. Kirk was one of three trustees appointed by Federal Judge Robert P. Anderson to take charge of the insolvent New Haven Railroad for the purpose of returning it to a sound condition. Bill is president of John P. Chase, Inc., of Boston (investment counselors) and has been in investment and finance work all of his professional life. After being graduated from the Institute, he studied at Harvard Business School, where he was graduated in 1930, then studied law and earned his LL.B. at Boston College in 1942. He was admitted to the Massachusetts bar the same year. Alice and Bill Kirk have five children: George, William J., Jr., David, Mary, and Anne. Son George was graduated from the Institute in the Class of 1960 and is now on duty with the Navy.

We were saddened to learn of the

death of **J. Mark Kolligan** on Wednesday, September 6, 1961. Mark had been in the automobile business in the Boston area for many years. He was widely known and well liked by everyone.—**Walter J. Smith**, Assistant Secretary, 15 Acorn Park, Cambridge, Mass.; **George I. Chatfield**, Secretary, 11 Winfield Avenue, Harrison, N.Y.

'29

At the Alumni Day in June we had the pleasure of seeing Charlie Frank, Joan and Wally Gale, Helen and Hugh Hamilton, Florence and Ted Malmstrom, Frank Mead, Newell Mitchell, Linc and Mrs. Reid, John Rich, Ray Shriner, and D. A. and John Wilson.

Jack Osborne has been appointed president of the National College Program, Inc., of New York, which is engaged in development and marketing of banking programs for education. Jack was formerly president of Forbes Lithograph Manufacturing Company and also formerly served as alderman in the City of Newton. . . .

A note from **Eric Bianchi**, just after returning from Europe, reports that he and Kay had lunch with Joan and **Wally Gale** on their way back from the Continent and missed seeing **John** and **D. A. Wilson**, also in London. Eric also reports that Elise and **Warren Walker** spent a weekend with them during the Wellesley College graduation of their daughter, Deborah. . . . It has been announced that **Frank Mead** is now assistant vice-president of New England Telephone and Telegraph.

Ruth Dean, whose husband is general chairman of the SCF in the Boston area, did an outstanding job this summer for the Fund. She took to the road in her Volkswagen to speak to alumnae, in Pittsburgh, Chicago, Denver, Los Angeles, and San Francisco, in quest of \$500,000 for a funded professorship to be named after our first woman student, Ellen Swallow Richards, '73. Mrs. Dean is also a member of the Greater Boston SCF Ladies' Steering Committee. . . . Florence and **Ted Malmstrom**'s daughter, Jacqueline, was married on October 14 to 2nd Lt. Harry Gibson Lane, U.S.A., at Oakham, Mass. Jackie attended the Women's College of the University of North Carolina and was graduated as a medical secretary from Burdett College. They will live in Schweinfurt, Bavaria.

Sears Hallett has been appointed publisher of Practical Builder Magazine. Dot and Sears, who have resided in Wellesley, have (or will be) relocated in Chicago. As vice-president and publisher of Modern Materials Handling, Sears accepted the Daniel Bloomfield Award of the American Marketing Association for the Cahners Publishing Company for the skillful use of marketing techniques in developing markets and audiences. Our congratulations to Sears. . . . **Carroll Hard-ing**, Course IV, has joined the architectural firm of Alfred T. Granger. Carroll was most recently with Lockwood Greene, engineers in Boston.

We learn from Vineyard Haven of the

passing of **John D. W. Churchill**, who succumbed to a heart attack aboard his boat in the harbor. . . . We also learn of the passing of **John Villeneuve** of Sorel, Quebec, last December, and **Frank Dunleavy**, in Bridgeport, Conn., in July, 1961.—**Fisher Hills**, Assistant Secretary, 62 Whittemore Avenue, Cambridge 40, Mass.

'30

Life would be much simpler if The Review were published quarterly rather than monthly. I find that during the three-month hiatus since the last issue, a respectable number of items have accumulated without the exertion of any particular effort on my part. However, the lazy days are over from here on, and contributions of newsworthy items will be most welcome. In the news category we have **Bill Dickerman**'s move from Paris to London last April as staff engineer on a coal carbonization plant for Lummus Company, Ltd. He and his wife are living (or at last report were living) at 9 Cadogan Court, Drayton Avenue, London S.W. 3. He reports that "Europe is in a real boom and prices have risen greatly since my previous visit." . . . Also at hand is a notice that last May **Ralph Peters** was appointed chairman of the TAPPI Fourdrinier Committee. As many of you doubtless know, Ralph is assistant superintendent of Eastman's Paper Mills Division. . . . **Bob Armstrong** recently became a neighbor of mine at 522 Fifth Avenue. In July the Celanese Corporation, of which Bob is vice-president and technical director, moved its offices from 180 Madison Avenue to the newly refurbished Morgan Guaranty Building at Fifth and 44th. Bob and I recently met for lunch and had a pleasant time bringing each other up to date. In the inconsequential coincidence department we discovered that we each have one child, both of whom are 16-year old sons named Robert who do not incline toward M.I.T.

Joe Devorss reports that he recently saw **Al Bird**, who has a "distinguished responsibility and position in the Corps of Engineers as assistant chief scientist." He also reports having seen **George** and **Midge Wyman** about a year ago. The Wymans have built a new home in Coffeyville, Kansas, where Jeff is general superintendent for the Ozark Smelting and Mining Company. Joe is marketing manager of U.S. Rubber's Government Department in Washington. He has three children: G. W., 3d, J. E., who is in his senior year of pre-medical training at Muhlenberg, and Joanne, who is in nursery school. . . . **Dip Depoyan** reports that he "came to Florida to get out of Number 1 target area and landed next door to Castro." Dip and his wife live at 410-39th Avenue N.E., in St. Petersburg. He says he was unable to find any classmates among the 35 or so M.I.T. men who turned out for the annual meeting at the St. Petersburg Yacht Club. . . . **Red Deyarmond** is on the Technical Staff of General Electric's Technical Military Planning Operation in Santa Barbara.

Calif. This unit of G.E. studies and manages projects on advanced missiles and space vehicles. Red lives in Santa Barbara with his wife and two children, Susan Jane, 14, and Albert Bruce, 11. He says he meets **Fred Dickerman** from time to time at I.A.S. meetings. . . . A recent news release notes that **Ed Nolan** has completed 25 years with Merck and Company. He is presently manager of Merck's Rahway plant. His manifold extra-curricular activities include jobs as president of the Union County Safety Council, past president of the Rahway Kiwanis Club, chairman of the Union County Citizens Budget Committee, past chairman of the P. & E. section of the Pharmaceutical Manufacturers Association, and past president of the Rahway Industrial Association. Ed, Irene and their four children live at Park Slope, Mountainside, N.J.

This month we have three items concerning men who, while not regular members of our class, have been assigned to Class of '30 as recipients of advanced degrees from the Institute. In this category is Rear Admiral **Schuyler Pyne** who recently retired after a distinguished career in the Navy. Admiral Pyne graduated from the Naval Academy in 1925 and subsequently received an M.S. from M.I.T. He was at one time commander of the Pearl Harbor Shipyard and at time of retirement was commanding officer of the New York Naval Shipyard, better known as the Brooklyn Navy Yard. He is currently deputy director of the English Speaking Union in New York. . . . Dr. **Winslow H. Hartford**, research supervisor at Allied Chemical's Solvay Process Division, gave a paper on "The Basicity of Chrome Tanning Compounds and Solutions" at the August meeting of the leather chemists in Washington. . . . **John Belding** has been appointed treasurer of Boonton Molding Company, Boonton, N.J.

Changes of address since publication of the new register, in addition to those of Bob Armstrong, Bill Dickerman, and John Belding mentioned above: **Lew Gitzinger**, VanCleve Hotel, 36 West First Street, Dayton 1, Ohio; **Al Prescott**, 5 Old Lyme Road, Winchester, Mass.; **Thurston Ramsey**, 400 Melbourne Avenue, Indialantic, Florida.—**Gordon K. Lister**, Secretary, 530 Fifth Avenue, New York 36, New York; **Ralph W. Peters**, Assistant Secretary, 249 Hollywood Avenue, Rochester, New York; **Louise Hall**, Assistant Secretary, Box 6636, College Station, Durham, North Carolina.

'32

Your newly appointed secretary has just returned from a trip around the world including a six-week stay in Kabul, Afghanistan, as an equipment consultant for the University of Wyoming which has a contract with ICA to aid Kabul University in their educational program. In Tokyo I had the pleasure of seeing **George Weed** who is manager of the DuPont Products Department of the American Trading Company (Japan), Ltd. An evening on

the town with George and then lunch the next day with George and his wife was followed by a visit to their home for a few hours to meet their two daughters. George has been back in Tokyo since 1937. During the war he was interned by the Japanese and then served with the Far East Air Forces after the war. During his years in the internment camp, he relearned his Japanese which has proven to be of great value to him. While touring through Bangkok a few days later, I met Professor Houlder Hudgins (School of Industrial Management) and his wife who were en route to India. Later in the day, I met Dick Morse, '23, and family who were on a world tour. I also visited Professor Prescott Smith, '35, and family in New Delhi where Prescott is serving on a U.S. Government mission to India for six months. From there I went to Kabul and spent six weeks developing a schedule of equipment and furnishing requirements for five new buildings for Kabul University. During this time, I had a visit from Nelson C. Lees, '53, who is Assistant to the Director of Public Relations here at the Institute. On the way home I met Eleanor in Barcelona and we had a real gay time, thanks to **Juan Serrallach**. Juan is busy with his home products business but finds time to enjoy his guitar and oil painting. Next year he hopes to attend the 30th Reunion on his way to Columbia, South America, to visit a married daughter. After four days in Barcelona we left reluctantly for two days in Paris and then six in London before returning to Boston.

According to the news, **Jerome F. Keating** is among the engineers working for Jackson and Moreland, Inc., on vacuum system design for the Space Environment Simulation Laboratory which is being built for General Electric at Valley Forge, Pa. . . . A recent feature article in the Chicago Daily Tribune was written by **Ira J. Bach** who is serving as Commissioner of City Planning for Chicago. . . . The alumni of Tau Epsilon Phi have named **Alfred W. Halper** as M.I.T.'s "Man of the Year." Al has been cited for his architectural designs and subdivision planning in Newton, Mass., where he is operating as a home builder. . . . **Frederick E. Mader** has been appointed a division manager of the New England Fire Insurance Rating Association. Fred has been with the Rating Association since 1935. . . . A new member to our staff at the Institute is **Elwood W. Schafer** who comes to us from CBS. Elwood has taken a position as Research Associate in the Department of Electrical Engineering to handle the administrative matters of the new Materials Center. He has agreed to serve as Assistant Secretary of our Class. Please keep the news of your activities rolling along to us so that we can have some interesting items to publish each month in the Class Notes. Our 30th Class Reunion will come at the end of this academic year and succeeding issues of Class Notes will contain increasing amounts of information on this event. If any of you visit the Institute please be sure to drop in.—**G. Edward Nealand**, Secretary, Room 3-137, M.I.T.; **Elwood W. Schafer**, Assistant Secretary, Room 10-318, M.I.T.

'34

These notes are being written in September at the time when the side effects of hurricane Carla (my youngest daughter's name) are blowing things about in Rhode Island. Your four-secretary team is ready for action and will do its best to report class news.

Justin M. (Chuck) Kearney died on August 3. Our sympathy goes to his wife Mary and their two daughters. . . . **Daniel M. Lewis, Jr.**, died on March 2. Our sympathy is with his wife Dorothy and their family.

Ernest J. Greenwood is now operations manager at the Norden Division of United Aircraft in Connecticut. He has been active in designing aircraft speed retarding devices, arresting gears, and aircraft control drives, and holds several patents in these areas. . . . **Wilfred MacDonnell**, President of Great Lakes Steel Corporation, was awarded an honorary doctor of engineering degree by Lawrence Institute of Technology in Detroit on June 4. He was also the commencement speaker. **William L. Timmerman** has established Timmerman Marketing, Inc., at 1013 Hope Street, Stamford, Conn., to serve the electronics industry in that area as a manufacturers' sales engineering agency. He was formerly regional manager for Miniature Precision Bearings, Inc.

Word has been received of two more sons of classmates who are now attending M.I.T.: Peter Michael Fitz, son of Mrs. **Carol H. Klein Fitz** and Howard I. Fitz, '24, and Philip Martin, son of **Stuart Martin**. . . . Our class was not represented by large numbers at the Alumni Day last June. However, the following classmates were present: Henry A. Mors, Jr., Israel Nigrosh and Mrs. Nigrosh, Chester A. Tudbury and Mrs. Tudbury, Paul Wing, Jr. and Mrs. Wing, Walter Wrigley and Mrs. Wrigley, and Robert S. Miller. . . . **George A. Fowles** is back in Cambridge this fall to attend the Advanced Management Program at the Harvard Business School. This is a 13-week course to which men are sent by their companies to assist in giving them the "broad view."

E. Philip Kron wrote, in May, and I quote in part from his letter to me: "My son, Philip Chandler gets his master's degree from the Tuck School at Dartmouth College this June, and he has accepted a job with Price Waterhouse in New York City. Of course, Eleanor and I are quite thrilled about this even though a little concerned that our oldest will definitely be away from the nest permanently. It is some relief though to have one off from the payroll, but we still have two to go. Of course, here in Rochester we all have been very busy working for the Second Century Fund on which I serve as sort of minister without portfolio. Actually, I have been sort of assistant area chairman doing a lot of leg work for Howie Samuels, the area chairman. I made all the arrangements for both of the telephone reports from Rochester and had the very pleasant privilege of introducing Dr. H. Guyford Stever, one of the

principal speakers at our M.I.T. Club of Rochester Centennial Dinner. I have finally completed my twenty years in the United States Air Force Reserve and applied for honorary retirement as a lieutenant colonel. I hope to be able to continue my duties, however, as an Air Force Academy liaison officer which is a nice supplement to my responsibilities as an M.I.T. educational counselor."—**Malcolm S. Stevens**, Secretary, Westfall-Chafee Laminates, Inc., P. O. Box 93, West Barrington, R. I.; Other Secretaries, **G. K. Crosby**, Longwood Road, Huntington, W. Va.; **J. P. Eder**, 1 Lockwood Road, Riverside, Conn.; **Harold E. Thayer**, 415 West Jackson Road, Webster Groves 19, Mo.

'35

Welcome back after an interesting and active summer. The first annual Class of 1935 Golf Tournament is down to the quarter-finals at this point with the following still in the running: Bill Barker, Nashua; Bob Granberg, Needham; Leo Beckwith, Kernwood at Salem; Dick Bailey, Ridgefields at Kingsport, Tenn.; Hal Bemis, Merion at Ardmore, Pa.; Bill Bennett, Hermitage at Richmond, Va.; Bill Cross, North Shore at Menasha, Wis.; and Allan Mowatt, Weston. Quarter-final and semi-final matches will be played before the next month's notes are due.

. . . **Gerry Rich**, Regional Secretary, was my host for a round of golf at the beautiful Pasatiempo Course at Santa Cruz, Calif., at the time of a trip to WESCON in August. He describes in his own words some exciting news: "Much has happened to me in the last few months which has tended to isolate me from activities in the outside world. In March I resigned from Sylvania after 22 years and started consulting in management and engineering. There followed a rather intense campaign for consulting jobs which turned out to be fairly successful. One of the companies hired me for eight weeks and finally after I had planned and organized everything in sight, I was hired as general manager. The company is Stewart Engineering in Santa Cruz, Calif., which, with a total employment of 75, enjoys about a fifth of the total market in backward wave oscillator tubes. It has a great potential and it is a good opportunity for me. We are busy (my wife and I) going through the process of selling our house and building another in the Santa Cruz area. Incidentally, we bought a lot on the 13th fairway of Pasatiempo Golf Course in Santa Cruz so maybe we can play there the next time you come out. Meanwhile, I am commuting 60 miles a day and working evenings at home." . . . **Gordon Scowcroft** left the United Fruit Company, September 1 to become vice-president in charge of new products at Lever Brothers in New York City. Congratulations and best wishes from all of us. We will report his new address as soon as he is located.

Wes Loomis and his wife Polly were off to Europe for a month as of September 15. Wes brings us up to date with the following most welcome letter: "I have seen **Bill Cross**, who now is president

of Kimberly-Clark International but have not seen **Art Croxson**, who is also located in Neenah, Wis., although I hear about him on occasions when I run into Bill. **Jack Ballard**, in Milwaukee, is also an enigma, but I did have a nice visit sometime back with **Jack Colby** at a Regional Meeting of the SCF. **Al Alschuler** is a very successful architect here in Chicago and from time to time we have communications in connection with the Chicago M.I.T. Club Scholarship Fund. I do see **Jack Burton** on frequent occasions when in New York, and through him keep up to date on **Pete Grant**, **Hal Bemis** and I have an occasional get-together and find it quite easy to pick up where we left off. **Charlie Taylor** has lost himself on St. Simon's Island, Ga., where he is in complete retirement, and I do mean complete. So you can see that if anyone is in need of a class reunion, it is me. Polly and I live in Northfield, which is some 15 minutes from my office here in Des Plaines. This is very convenient and negates the commuting problem which is usually associated with metropolitan living. We have three children. Betsy, who is 20, has just been graduated from Colby Junior College and plans to go to Columbia University next year with a view to obtaining a B.S. Degree and an RN three years hence. Our 18-year-old boy, Jonathan, graduates from North Shore Country Day School this year and will be spending next year in Scotland at the Gordonstoun School. Our post war effort, Fred, turns 11 years old today and he is as lively as any 11-year-old youngster could be. Polly still puts up with me, although I am sure that she finds it quite difficult; but after 24 years our gals become somewhat calloused in putting up with the faults of their husbands. As far as I am concerned, I am a flabby 48 and somewhere above my 179-pound rowing weight. We do enjoy an occasional round of golf, but I hardly find myself in what **Bill Haines** would have called 'condition.' General Telephone Directory Company is a wholly owned subsidiary of General Telephone and Electronics Corporation. We publish telephone directories for General System subsidiaries, as well as for some 250 other independent telephone companies. These other clients include Hawaiian Telephone & Telegraph Company, Southern Nevada Telephone Company (Las Vegas), Winter Park Telephone Company (Winter Park, Fla.), etc. So you can see that our business is quite widespread; in fact, we currently operate in some 38 states. It has been a most interesting and profitable experience as our company has grown tremendously during the six years I have been associated with it. Our operating report has shown steady improvement each year. Because of the geographical spread of our operation, you can well imagine that my travel demands have been great; in fact, our whole staff is pretty much on the go most of the time." Wes is president of this growing company. He managed to win the first two rounds in the class tournament until he came up against **Bill Barker**.

Ned Collins writes he is busy opening new executive offices in the Merchandising Mart in Chicago. His company is E. J.

Collins and Associates, Inc. . . . **Dick Shaw** has been promoted to colonel. He is commander, 1117th U. S. Army Garrison (reserve) at Hartford, Conn. Congratulations Dick. . . . **Kenneth Finlayson** was recently elected president of the M.I.T. Club of New York.

William Dunn, our man in Honolulu, came through with a "quickie" this summer in which he states in part: "Looking over our album has brought back pleasant memories of our reunion last year. I hope we will not have to wait too long before we can join in another." **Larry Stone** had telephoned him before writing the following at sea, aboard the USNS General Patrick: "By now you should have heard from Bill Dunn in Honolulu. About a week ago, just before leaving Hawaii, I stopped in at his office to see him and bid him aloha. As he may have told you there are not more than two or three Class of '35ers in Hawaii, and this may well account for the lack of class news from there. My wife, daughter, and I have been enjoying an amazingly smooth and calm voyage, although all of us hated to leave our Hawaiian paradise. At San Francisco, I expect to be met by my son-in-law and daughter who will introduce me to the five-month-old grandson I have not yet seen. We'll motor down the California coast to Vandenberg Air Force Base (they live in neighboring Lompoc). After visiting them we'll fly from Los Angeles to Detroit, pick up a new car and drive to Boston via Niagara Falls (which we've never seen). When we've visited our parents and the rest of our family, we'll head for Washington, get my daughter started at American University, do some househunting and buckle down to my new job in the Field Service Division Office of the Chief of Ordnance, Department of the Army, Washington 25, D. C." Larry adds that this address is o.k. for mail, so make a note in your address book right now.

I received a brief note from Elizabeth **Hakala** telling me that **Oscar** had passed away suddenly of a heart attack on April 23. He was our district secretary in Southern California, and had attended our 25th Reunion, taking dozens of pictures. . . . Recent additions to the M.I.T. Club membership rolls include: **Marvin H. Glantz**, **Lincoln Paige**, and **E. B. Reilly** of our class. . . . **Art King** sent the following news in which you will be interested: "Concurrent with an announcement by Wesly M. Dixon, Chairman of the Board and President of Container Corporation of America, an announcement was released here today by Arthur M. King, President of Mengel Wood Industries, Inc., that his company has agreed to buy the wood products plants of Container's Mengel Division, effective May 1. Mengel Wood Industries, Inc., is a new corporation established by the present management of Container's Wood Products Division. All employees of the present Wood Products Division are being retained by the new corporation, including factory and office employees and the two separate sales forces. General Offices continue at their present location in the Commonwealth Building, Louisville, Ky."

Otto Zwanzig stopped by in June en route to Washington, D. C., from his

home in Vancouver. He has joined Foster Associates, management consultants, and opened a Washington office for them. Until the change this spring he was Marketing Manager in charge of a 300-employee department at British Columbia Electric, Ltd. He had two children, one at home: a red-headed 9-year-old daughter in the 3rd grade; and 16-year-old Peter, attending Neuchatel Junior College in Switzerland. . . . **Hal Everett** stopped in for lunch en route home from taking his three children to a New Hampshire camp. He left notes he had received from the following 13 classmates out of 22 to whom he had written (we will include several of these in the notes each month): Raymond A. Schneek, New Hyde Park; Dr. Morton Hecht, Jr., Great Neck; E. Donald Gittens, Flower Hill, Port Washington; Donald F. Taylor, Manhasset; Marvin H. Glantz (Capt. USN Ret.) Massapequa; Edward E. Helwith, West Hempstead; Oliver Hoag, Port Washington; Paul Cohen, Glen Cove; Fred J. Bensin, Huntington; John W. Ericson, Syosset; Samuel Paul, Woodmere; Kenneth P. Brown, Garden City; Isaac H. Munro, Port Washington. . . . Write now and tell us what you have done this past summer, or the past 10 to 26 years; contact your nearest secretary, now.—**Alan Q. Mowatt**, 11 Castle Road Lexington 73, Mass.; **Hal L. Bemis**, 510 Avonwood Road, Haverford, Pa.; **Elmer D. Szantay**, 6130 North Kilbourn Avenue, Chicago 16, Ill.; and **Gerald C. Rich**, 673 Rosita Avenue, Los Altos, Calif., Regional Secretaries.

'36

Our 25th Reunion is now a pleasant memory to those 90-odd classmates who, with wives and children, were able to be on campus for three busy days. From the opening dinner Friday through Sunday's clambake at beautiful Castle Hill in Ipswich, members of the class came and went. Still others were present on Alumni Day on Monday. Present for all or part of the festivities were: Ollie Angevine, Fred Assmann, Jack Austin, Jim Baker, Frank Berman, John Bete, Charlie Betts, Bob Boden, Ford Boulware, Dick Bryant, Norm Bull, Doug Cairns, Cesar Calderon, Art Carota, Fred Carten, John Chapper, Jack Coffin, Ben Cooperstein, Norm Copeland, Sid Cornell, Bill Cresswell, Elliot Cullati, Kay Shott Cummins, Ed Dashefsky, Dick Denton, Dana Devereux, Dick De Wolfe, Harry Easton, Harry Easley, Vince Estabrook, Bill Fingerle, Mel First, Harry Foster, Dick Fox, Bill Garth, Bob Gillette, Martin Gilman, Mal Graves, Eli Grossman, Ed Halfmann, Dick Haloran, Tony Hittl, Charlie Holman, Bill Hope; the three Johnsons—Henry, Stan, and Tom; Larry Kanter, Alice Hunter Kimball, Dick Koegler, Leo Kramer, Roger Krey, Roger Le Blanc, Frank Lessard, Loreto Lombardi, Brent Lowe, Walt MacAdam, Henry McGrath, Hal Miller, Phil Norton, Dick Odiorne, Rudy Ozol, Frank Parker, George Parkhurst, Larry Peterson, Fred Prah, Laddie Reday, Paul Richardson, Elliott Robinson, Bob Saslaw, Bus Schliemann, Dorian Shainin,

Warren Sherburne, Leon Simons, Stan Smith, Lea Spring, Ariel Thomas, Bill Tier, Mike Tremaglio, John Viola, and Bob Wead.

Sunday afternoon, when most of us were too replete with clams and lobster to be very serious, the class meeting was held. **Jack Austin** presided and after much ado the following officers were elected: President, Jack Austin; Vice-president, **Brent Lowe**; Treasurer, **Eli Grossman**; Secretary, **Alice Kimball**. The meeting promptly adjourned and we all settled down to more serious business. . . . One of the highlights of the event was the distribution of the Reunion Book. Copiously illustrated with pictures then and now, it contains up-to-date information on more than 225 classmates. Copies will be sent to those who made possible its publication by sending in dues prior to the reunion. It is hoped that enough copies will be available for all active members of the class. Still more biographical data arrived too late to be included even though the press deadline was delayed. If funds are available perhaps a supplement can be published. We certainly are a varied lot, interested in everything under the sun and engaged in many different pursuits.

Next month I'll give you more specifics on the reunion and an account of Alumni Day. As your newly-elected secretary I shall have to learn to be more alert to what goes on about me. Furthermore, I can write plenty if I have the facts, but I never was any good at writing reams about nothing. If this column is to appear regularly I will need your help.—**Alice H. Kimball**, Secretary, 20 Everett Avenue, Winchester, Mass.

'37

Our class was well represented at Alumni Day last June by Frances and Quentin Berg, Betty and Cliff Lytle, Ruth and Phil Peters, Robin and Harvey Phipard, Rose and Bob Thorson, Louise and Bill Wold, Joe Heal, Tom Kinraide and John Nugent. The main topic of discussion among our class was our 25th Reunion. As you all know, it will be an on-campus reunion for classmates, wives, and offspring. From all indications, we are going to set a record for the largest and best reunion and if you haven't already made arrangements for the weekend of June 9, 1962, now is the time.

Phil Peters, Second Century Fund Area Organization Chairman, spoke to the SCF leaders at the Alumni Day Conference. . . . Representing M.I.T. and the Class of '37 at the Michigan Aeronautics and Space Association's 3rd Annual Industry Missile and Space Conference and Aerospace Exposition, was Vice-president **James V. McCormack**. He participated in a panel discussion on "Procurement Planning of the U.S. Navy." . . . **Lew Seder** spoke recently at the 15th Annual Convention and Exhibit of the American Society for Quality Control at the Sheraton Hotel, Philadelphia, on "How to Evaluate a Company's Quality Control Need." . . . **Bob Goldsmith** of Amman and Whitney, Consulting Engineers, New York, recent-

ly published an article on the "Pittsburgh Public Auditorium Retractable Roof." . . . **Herb Weiss**, Manager of Military Systems Planning, Technical Staff, participated in the recent Summary Plenary Meeting of the Operations Evaluation Group (OEG) of the Office of the Chief of Naval Operations. . . . **Les Klashman** spoke recently on the campus of the Pennsylvania State University to the 33rd annual meeting of the Pennsylvania Water Pollution Control Association on federal regulation of and assistance to municipal sewage treatment operations. Les is the regional program director of the Water Supply and Pollution Division, Department of Health, Education and Welfare.

. . . **Bob Cornforth** has been appointed a sales engineer on the senior sales staff of The Lummus Company. . . . **Joe Engel** has been appointed chief metallurgist for the Buffalo steel plant of Republic Steel Corporation. . . . **Bert Bennison** recently has been made Assistant Director of Research of the Ortho Pharmaceutical Corporation.

To make our 25th Reunion an outstanding success, we must be proud of our Class Gift. Co-operation by each individual in accordance with his capacity in contributing to M.I.T.'s Second Century Fund, which is counted toward our Class Gift, will ensure that our class will reach its objective.—**Robert H. Thorson**, Secretary, 506 Riverside Avenue, Medford, Mass.; Professor **Curtis Powell**, Assistant Secretary, Room 5-323, M.I.T.; **Jerome Salny**, Assistant Secretary, Egbert Hill, Morristown, N.J.

'38

On August 10, **Julius Kovitz** died in a Liege, Belgium, hospital. Julius was a resident of Belgium where he served as a chemist for the Brussels firm of Metalochimique. He is survived by his wife, Sylvia (Astor), and four children, Barbara, Frances, Roberta, and Donald.

Bert Grosselfinger has kept me posted of his travels. One card arrived from Casablanca and another from Sao Paulo, Brazil. It would appear that Bert is maintaining his usual pace. . . . There are news items on political activities of three members of the class. In Wakefield, Mass., **Jack Bethel** was appointed to the Board of Public Works. Jack has also served on the Finance Committee of Wakefield. . . . In Redwing, Minn., **Demetrius Gelatis** has been elected mayor. Demetrius has been a resident of Redwing for several years. In 1946 he and two other Tech men (Frank Chesley and Gordon Lee) formed the Central Research Laboratories, Inc., the major product of which is a series of master-slave manipulators for handling radioactive materials. . . . The (Boston) Traveler has published an item about **Bill Gibson's** activities as U.S. Consul in Luanda, Angola, where he has been stationed for the last two years. He had previously served in Brazil, India, and London. The paper states, "Life under the American flag in Angola is not easy. Last March the consulate was the scene of a nasty mob attack, after the United States

first stated its stand against Portuguese colonial policy. Gibson's official car was pushed into Luanda Bay, in front of the consulate building. The anti-American mob tried to enter the offices, but was stopped by police."

Recent promotions include that of **Norman Currier** to management analysis officer, engineering department, in the Portsmouth (N.H.) Naval Shipyard, and that of **Marvin Kahn**, Vice-president of Acme-Hamilton Manufacturing Corporation, to the position of director of research, development, and engineering. . . . **David Wadleigh**, who is director of engineering for Scott Paper Company, was one of the participants in the 40th session of the advanced management program at the Harvard Business School. . . . And for a final item for this set of notes, **Welcome Bender** was a speaker at the Franklin Institute last May.—**David E. Acker**, Secretary, Arthur D. Little, Inc., 1424 Fourth Street, Santa Monica, Calif.

'40

It is indeed with regret that I must report the death of another classmate. **Theodore E. Dinsmoor**, who was *deputy* director of American Machine and Foundry Research and Development Division, died on August 17, 1961, of a heart attack. Ted received his B.S. degree in mechanical engineering and was with the Naval Ordnance Laboratory from 1941-1956, first as chief of the Special Projects Division and later as *deputy* chief of the Engineering Division. In 1956 he joined American Machine and Foundry as director of planning and applications engineering in the Defense Products Group and at the time of his death, as stated, was *deputy* director of the Research and Development Division. He was the author of about 20 technical papers and the holder of three important patents. The U.S. Navy gave him the Certificate of Commendation in 1947, the Meritorious Civilian Service Award in 1952, and the Distinguished Civilian Service Award in 1956. The citation of the latter award reads as follows: "Through his noteworthy technical and administrative capabilities, as demonstrated in the field of underwater ordnance development at the Naval Ordnance Laboratory, White Oak, Md., Mr. Dinsmoor has made outstanding contributions to Naval defense. As chief of the Special Weapons Division of the Laboratory's Underwater Ordnance Department, he has made particularly outstanding contributions to the Navy's Underwater Ordnance Program by providing inspiring leadership and remarkably sound engineering judgment in directing and co-ordinating the efforts of a group which successfully planned and developed to a state of fruition a complex project designed to provide our country with unique capability in terms of Naval tactics." He is survived by his wife, Elizabeth, and two sons, Theodore, Jr., 15, and David, 10.

During the summer vacation, I received the following note from **Phelps Walker** in connection with a problem in his patent department at the Parker Pen Company:

"I was sorry to miss the 20th Reunion but our daughter Frances was graduated from high school that weekend. She will be a freshman at Wellesley this fall. Our daughter Margaret will be a sophomore in high school this year. Fred and Paul are entering sixth and fourth grades respectively. . . . Maxine and I have been living in Janesville for over seven years, and we love it. I was recently transferred from the domestic operation to the international operation of Parker Pen. This has given me an opportunity to cope with some of our problems overseas. . . . This spring Maxine and I spent six weeks in Brazil, where I was conducting industrial management seminars for the ICA. This was great fun. We may even have done some good, although Janio Quadros is certainly an enigma. Next week I am leaving on a brief trip to Europe. Next time I will write to you just for the hell of it—not because I want something."

From **Bob Hess** comes the following: "Thought it about time I brought you up to date on my doings. Have been quite mobile over the past five years. First up to Burlington, Vt., for several years as Plastics Department manager in brush fibers. Fell in love with the area and hope some day we can go back there permanently. Then, after a brief stay in Brooklyn, where I learned how to produce polyethylene film, I went to Batavia, Ill., to bring a new polyfilm plant on stream for Plastic Horizons, Inc.—then the largest independent producer of this product. When I'd been plant manager there for about eight months, Celanese bought out the company. Then I became technical and administrative superintendent for a combined two-plant operation; and if you think commuting between two plants 40 miles apart is fun, try it some time in Chicago traffic! Now I'm back in my home territory again as development manager for Celanese Plastics Company, in Newark. We're involved in acetate film and sheeting, polyethylene film and polyethylene bottles in this division.

"On the personal side, we now have two boys. I can probably claim just about the youngest offspring for the class; at least for the present. Roger was born on March 1. His older brother, Tommy, is now five. We've just acquired a house in Livingston, N.J., and are looking forward to getting back East. . . . Haven't seen many of our classmates. Was sorry to miss the 20th last year, but was unable to break away. Hope to see more of the gang now that I'm within reach of a club. . . . That about brings my activities up to date."

Charlie DeMailly has been elected vice-president of Plymouth Cordage Company. . . . **Roger Mather** has been appointed director of the newly established Research and Engineering Division of the Mine Safety Appliances Company. Previously Roger was with U.S. Steel. . . . **Roy Avery** is managing editor of the American Chemical Society's News Service. . . . **Amos Joel** has been appointed director of Switching Systems Development at Bell Telephone Labs. . . . **Charles Kip** has joined the Chemstrand Research Center, Inc., as a literature chemist. Charles has just received his degree in library science

from Western Reserve. . . . **Clinton Powell** is now the assistant director of the National Institute of Allergy and Infectious Diseases, at the National Institutes of Health, Bethesda, Md. Clinton has risen up through the ranks at NIH since he was commissioned an officer in the Public Health Service in 1946. . . . **Robert Hose** has organized his own firm of Robert Hose Associates. The new organization is located at 392 Springfield Avenue, Summit, N.J., and will specialize in industrial design consultation. For the last 15 years Bob was connected with the Henry Dreyfuss organization and worked on a diversity of projects, including ball-point pens, telephones, thermostats, slide projectors, computers, machine tools, bowling alley equipment, earthmoving vehicles, and missile systems. He is a fellow and past president of the American Society of Industrial Designers, a registered architect, and a member of ASME and AIEE. . . . **Bob McDonnell** is now applicant and sales engineer for Dee Air Conditioning, Inc., in Springfield, Mass.

The following members of the class attended the Alumni Day festivities on June 12, 1961: James and Mrs. Baird, John Danforth, Sam and Mrs. Goldblith, Larry Kelbley, Ed and Mrs. Pollak, Phil Stoddard, Arnie and Mrs. Wight, Hap Farrell.—**Alvin Guttag**, Secretary, Cushman, Darby & Cushman, American Security Building, Washington 5, D.C.; **Samuel A. Goldblith**, Assistant Secretary, Department of Food Technology, M.I.T., Cambridge, Mass.

'41

It was shocking to hear and is a sad duty to report that **Bill Ahrendt**, his wife, Mathilde, and three of their four children, Virginia, 11, Charles, 7, and Barbara, 3, were killed when their private plane crashed in the Peruvian Andes on September 1. Bill had left Lima bound for Pucalipa. After selling his company, Ahrendt Instrument Company, to Litton Industries Bill became a private engineering consultant. He was also a contributor to the "Encyclopedia Britannica" on the science of servomechanisms and was a part-time instructor at Maryland University's School of Engineering before accepting the post of visiting professor at Peru's National University of Engineering in January of this year.

On the brighter and more heartening side of the news, we are happy to report that **Rog Finch** has been appointed Director of University Relations for President Kennedy's newly formed Peace Corps. Dr. Finch, who is director of the Rensselaer Research Division, has been granted a leave of absence from that post by Rensselaer Polytechnic Institute in order to fill the Peace Corps post, which assignment he commenced in Washington on August 1. He will be responsible for Peace Corps projects administered by universities. This method of operation of Corps projects abroad is, we are informed, one of the principal ways in which the Corps will function to make the skills of American educators available to the people of

other countries. Rog received his master's degree in 1947 and his doctorate in 1950, both at M.I.T. In 1946 he was appointed director of the Slater Memorial Textile Research Laboratory, a post he held until he joined the Rensselaer faculty in 1954. He was a member of the Engineering Education Mission to Japan in the summer of 1951. For six weeks in 1952, he was engineering education consultant to the Mutual Security Administration to negotiate a contract between M.I.T. and the University of Rangoon. From January to May of 1953, he was deputy director in Burma for the Technical Cooperation Administration and then served for a year as director of the Foreign Operations Administration in that country. During World War II, Rog was first a captain in the Air Force and from December 1943 was for two years a major in the Quartermaster Corps as director of heavy textile research and development for the Army. He is a native of Broadalbin and was married in 1942 to Barbara E. Hine of Gloversville. They have four children, David, John, Steven and Kathryn.

Charles Sauer has just removed himself from the "Most eligible bachelor list." He was married the first part of September in San Francisco to Miss Mary Louise Read of Weston, Mass. They are spending their honeymoon in Hawaii. . . . **George F. Quinn** has been appointed assistant general manager for Plans and Production in the U.S. Atomic Energy Commission. His duties will include the direction of the Divisions of Production, Plans, Operations Analysis and Forecasting, Raw Materials, and a newly-established Division of Peaceful Nuclear Explosives, which will carry out the Commission's Plowshare Program, hitherto a function of the Division of Military Application. George joined the Commission staff in 1948 as an industrial engineer. In December, 1952, he was named Chief of the Production Division's Reactor Products Branch; in March, 1954, Assistant Director for Operations, and in October, 1955, Deputy Director. He was appointed Director of the Division in September, 1959. After his graduation from M.I.T. with a B.S. degree in chemical engineering, he worked five years as an engineer and research assistant on programs for the Office of Scientific Research and Development and the Manhattan Engineer District. He served as instructor in chemical engineering at Columbia University from July, 1946, to June, 1948, when he received his M.S. degree in chemical engineering. . . . Our Class was well represented at the second Technical Conference on Hurricanes, under the Joint Sponsorship of the American Meteorological Society and the Greater Miami Branch of that society, on June 27-30. Professor **James M. Austin**, Secretary of the American Meteorological Society and **Kenneth C. Spengler**, Treasurer, attended the Conference.

The 20th Reunion, June 9-11, at Bald Peak Colony Club, Melvin Village, N.H., is still a happy topic of conversation. The accommodations, food and service were excellent. Even the weather was fine. The generally accepted observation among those present was that, except for increasing waistlines and receding hairlines,

the men looked just as youthful as ever. The ladies were even more alluring than at the 15th Reunion. Those in attendance were: Zack and Maizie Abuza, Bud and Pat Ackerson, Johan and Sis Andersen, Colonel and Mrs. Richard Arnold, Hank and Mary Ruth Avery, Professor and Mrs. Stanley Backer, Pierre and Susie Barkey, Ed and Alice Beaupre, Ray and Cecily Berry, Jr., Robert W. and Ruth Blake, Robert W. and Lindsley Blake, Rog and Priscilla Blum, Bill and Lucienne Bowes, Joe and Jinny Bowman, Bill and Mrs. Cadogan, Bill and Mrs. Cherry, Wilson Compton, Jr., Mario Conti, Bob and Carol Demartini, Malcolm and Mrs. Dodd, Mike Driscoll, Rog and Barbara Finch, Bill and Jean Folberth, Jr., Lewis and Penny Fyske, Joe and Dorothy Gavin, Jr., Carl and Marie Goodwin, Les and Alice Gott, Elmer and Martha Greenleaf, Bill and Mary Hargens, Ray and Peggy Harper, Alvin and Margery Hartman, Luke and Dorothy Hayden, Bill and Evelyn Hooper, Erling Hustvedt, Frank and Barbara Johnson, Herb and Mrs. Klein, Walt Kreske, John and Dion Macleod, Jr., Mitch and Marjorie Marcus, Ed and Nat Marden, Bob and Eileen Meier, Kirk and Ann Miller, Will Mott, Carl Mueller, John and Janet Murdock, Conrad Nelson, Monroe Norden, Ed and Eleanor Owen, Charles Sauer, John and Marge Sexton, Norm and Nini Shapira, Bob and Eleanore Smith, Peter and Marjorie Smolka, Ken and Louise Spaulding, Irving and Mrs. Stein, Frank and Beth Storm, Jr., Jim and Mrs. Thornton, Lawrence and Jane Turnock, Jr., Ted and Lois Walkowicz, Reid and Barbara Weedon, Arthur and Mrs. Weinberger. As evidence of the physical fitness of those in attendance, sporting events were very popular and awards were made to some in recognition of their outstanding skill and sporting prowess. Those receiving awards were: Tennis, **Kirk Miller**; golf, **Les Gott** for low gross, **Joe Bowman** and **Roger Blum** winning partners in the tournament; **Larry Turnock** for hitting and fielding.

Class elections were held at the reunion with the results as follows: President, **Ed Marden** re-elected; Vice-President, **Johan Andersen**; Regional Vice Presidents, **John Sexton**, **Ted Walkowicz**, **Bob Meier**, **Frank Storm**; Secretary-Treasurer, **Walt Kreske**; Assistant Secretaries, **Hank Avery**, **Everett Ackerson**; Local Standing Committee to keep the ball rolling for your convenience and pleasure, **Ed Beaupre**, **Ivor Collins**, **Mike Driscoll**, **Dave Howard**, **John MacLeod, Jr.**, **Charles Sauer**, **Irving Stein**, **Reid Weedon, Jr.**

Be sure to keep us informed as to your activities, promotions, demotions and what not.—**Walter J. Kreske**, Secretary, 53 State Street, Boston; **Henry Avery**, Assistant Secretary, 169 Mohawk Drive, Pittsburgh 28, Pa.; **Everett Ackerson**, Assistant Secretary, 16 Vernon Street, South Braintree 85, Mass.

'42

Monroe R. Brown has joined the Piasecki Aircraft Corporation as vice-president, Administration. This new position

continues Monroe's old association with Mr. Piasecki and his even older work in the helicopter and vertical takeoff field. Piasecki Aircraft designs and builds aerial jeeps and other airborne equipment. Monroe's previous positions have been with Curtis-Wright, Vertol Aircraft Corporation and with the Aerospace Industries Association, where he was manager of the Helicopter Council. He received an award from the American Helicopter Society for his contributions to the development of the helicopter industry. He is a former vice-president of that society and in addition is a member of the Institute of the Aerospace Sciences, of the Educational Council of the Institute, and is a colonel in the Air Force Reserve. He is now living in Philadelphia at 2601 Parkway. . . . The Riverside Research Laboratory, Inc., of Cambridge, Mass., has announced the election of Dr. **Henry A. Hill** as president. The fields of interest of Henry's organization are synthetic organic and physical organic chemistry, biochemistry, polymers, and rubber and plastic technology. Prior to this position he was vice-president of National Polychemicals, Inc., vice-president of Atlantic Research Associates, and a group leader with Dewey & Almy Chemical Company. He received his doctorate with us after having been awarded a B.S. by Johnson C. Smith University, Charlotte, N.C. Henry is a member of the A.C.S. and the A.A.S., and is a fellow of the American Institute of Chemists.

For those of us who wish, casually, to follow the patent literature, the Saturday New York Times Financial Section is a good source. The lead item recently covered two patents for important improvements of **Eric Wormser** in thermistor infrared detectors. Both have to do with immersed bolometers and the order of magnitude increase in sensitivity achieved. Among the uses for these miniature devices is the horizon sensing system for stabilizing Project Mercury and TIROS weather satellites. The patent numbers are 2,983,887 and -8. . . . As reported a short while ago **Ted Eliot** is now in N.Y.C. We are both pleased to discover, over a very pleasant lunch at the M.I.T. Club, that the other had gained little weight or wrinkles and lost little hair in the past ten years. Ted and wife have just finished building a big house in Princeton, N.J., for their four boys and themselves. By twisting his arm I garnered a little propaganda for the class grist mill, as follows: last June Ted and two associates from Texas Butadiene and Chemical (his former employer) presented a paper in Toronto, "A Chemical Systems Engineering Training Course in a Petrochemical Company," for the Instrument Society; and another in Boulder, Colo., "Incentives for Computer Control in the Chemical Industries," for the Second Joint Automatic Control Conference. When not otherwise traveling Ted can be found out hunting with his boys.

We regret to report the death of **Henry L. Hamilton, Jr.** on March 28, 1961. He received his S.B. degree with us in Course XIII-C, Marine Transportation. His last address was in Bremen, Germany.

Ernest Artz has been promoted by the SunOlin Chemical Company to head the

ethylene oxide plant in Claymont, Del. Prior to joining SunOlin in 1960, Ernie was superintendent of operations at the U.S. Air Force high-energy fuel plant operated by Olin Mathieson in Model City, N.Y. His other experience includes a partnership in an oil well drilling operation and head of a petrochemical department with Union Carbide Chemical Company at Institute, West Virginia. He is a member of A.I.Ch.E. and Alpha Chi Sigma. Ernie and Boann have four children: Lynn, 8; Christy, 7; Steven, 4; and Nancy, 3. They live in Media, Pa. . . . Among the graduate students affiliated with our class is Professor **Henry J. Zimmerman** of the Institute's Department of Electrical Engineering. From a recent announcement by President Stratton we learned that Henry has been appointed director of the Research Laboratory of Electronics. In this position he succeeds Dr. J. B. Wiesner, now science adviser to President Kennedy. The R.L.E. is one of M.I.T.'s largest interdepartmental laboratories, carrying on a varied program of research in speech signals, radio signal propagation, communications biophysics, methods of translating languages by means of machines, plasma dynamics, and microwave spectroscopy. During World War II, Professor Zimmerman helped to organize the M.I.T. Radar School. He is a member of the A.I.E.E. and the I.R.E.

There is also interesting news about three of our classmates who completed the military meteorology course with us: **Richard J. Roth** has become vice-president of the Travelers Research Center, Inc., of Hartford, Conn. The company grew out of the meteorological research group of the Travelers Insurance Company and, up until now, concentrated on military and government programs. Richard will direct the industrial and business activities of the Center. He is the former manager of the Crop-Hail Insurance Actuarial Association. Before that he was an Air Force major and served as commanding officer of the Air Weather Service Data Control Unit at New Orleans. The Travelers Research Center has a staff of 95 including 50 professionals. . . . Somewhat removed from meteorology is **Bryan F. Smith**, newly elected vice-president of Texas Instruments, Inc. Bryan is in charge of corporate relations and continues as secretary and general counsel of the company. He came to the Institute after taking a B.S. in mathematics from Harvard, served as an air weather officer until he left the Air Force (as a major) to attend Columbia University Law School. He was with a New York City law firm until he joined Texas Instruments in 1951. Bryan is a vice-president and director of the American Society of Corporate Secretaries, a director of the Dallas Crime Commission, and the Dallas Heart Association. Bryan and June Elizabeth have five sons and one daughter. . . . Burlington, Vt.'s new chief weatherman, **Robert S. Ingram**, is the third of our weather trio. He came to the Institute after graduating from Williams, served as a Navy weather officer and spent ten years at the Hawaii regional weather station. Robert's most recent assignment was with the observational test

and development center of the U.S. Weather Bureau at Sterling, Va. The Ingolds have two children, 15 and 12 years old.

A new arrival to Hawaii is **Gordon Hill**. He has joined a firm of consulting engineers in Honolulu. Gordon has been city engineer for Piqua, Ohio, for the past two years. Before that he operated a civil engineering firm in Dayton. . . . The Women Students Association has furnished some information on two of our coeds: **Eloise Humey Evans** has been living in Stockholm for the past year. She writes, "Sweden is most pleasant, and we are comfortably located in a new apartment building about 20 minutes from central Stockholm. The winter was unusually mild, very little snow, to the children's disappointment." Howard has a Guggenheim Fellowship at the Royal Technical Institute so Eloise is taking the year off. This coming year he will be back at the U.S. Geological Survey in Washington, and she expects to be back at the National Bureau of Standards. Her work is in X-ray diffraction. (We secretaries sometimes have to get our news by various back doors.) . . . **Frances R. Karlan** is in charge of the Dental Clinic at the home office of the Metropolitan Life Insurance Company. She is also on the staff of the stomatology department at Columbia University Dental School. In addition to these professional tasks, she is the busy mother of a 12-year-old girl and a 10-year-old boy. . . . Best wishes for the new fall season from your various secretaries.—

Lou Rosenblum, Secretary, Technological Investors Corporation, 27 Williams St., New York 5, N.Y.; **J. J. Quinn** in Hawthorne, **Bob Keating** in St. Louis, **Ed Edmunds** in Albuquerque, Assistant Secretaries.

'43

Lots of good news and announcements came my way during the summer months, which I am pleased to pass on to you. First, from **Hugh Pastoriza, Jr.**, written in June: "I am pretty sure this is the first time I have made any 'formal' statement of my activities for the Class Notes. . . . On March 18, this year, I married **Nancy King** of San Ansalmo, Calif. On March 19, we took off for a two weeks' honeymoon in the Canary Islands and on April 4, I started my new appointment with the IBM World Trade Europe Corporation in Paris. I joined IBM in 1952 and held various jobs in the product planning and engineering areas with the IBM domestic organization until 1959, when I was transferred to the IBM World Trade Corp., whose headquarters are in New York City. My job in Paris, which is a two to three-year assignment, is as Director of Product and Market Planning with World Trade Europe Corporation. This covers a multitude of sins, including Market Research, Systems Standards, Programming Development, Product Planning and probably some other things I haven't found out about yet. This is an extremely fascinating and challenging assignment, particularly due to the fact that my dealings

are with a group of very intelligent and capable people from many countries. We have a staff relationship with 12 European companies where we have product and market planning personnel. It also involves dealings with six product development laboratories in each of which we have product planning people. Nancy and I have settled in a small but comfortable apartment near the Arc de Triomphe and are the proud owners of a Peugeot. We would certainly be delighted to hear from any of the class who are coming through town. I can be reached at the IBM World Trade Europe Corp., 3, Place de la Madeleine, Paris 8 (telephone ANJou 19-90)."

Without doubt the most unusual birth announcement I have ever seen was received from **Sherman** and Paula **Sackheim**, of Mulberry Lane, New Rochelle, N.Y. It is a five-inch LP record (made of paper) bearing the label "Pink Ribbon" with the different bands on each side of the record entitled "I saw Mommy Kissing Santa Claus," by Neil Sackheim; "Get Me To The Hospital On Time," by Paula Sackheim; "I Could Have Paced All Night," by Sherman Sackheim; "Whistle While You Work," by the doctors and nurses; "I Enjoy Being A Girl," by the newly born daughter, Stephanie Louise Sackheim (born April 20); "Three's Enough, Already," by the brothers Neil and Andrew Sackheim; "I'll Never Be The Same," by Paula Sackheim, the mommie; and "Going Home," by the Entire Cast. This record came in a usual record cover with a complete description of the off-Broadway presentation of the whole production entitled "Three's Enough, Already," with liner notes by Sherman P. Sackheim himself. Needless to say, Sherm, as you know, is in the public relations and advertising business and does quite a bit of work for the leading record companies. . . . **Ken Wadleigh**, Professor of Mechanical Engineering at the Institute, is the new Dean of Student Affairs. He succeeds Dean John T. Rule who asked to be relieved of administrative duties to return to teaching. . . . In July, Captain **William A. Brockett**, Commander of the Boston Naval Shipyard, who received his master's degree with our class, was selected for promotion to rear admiral, and may be the youngest rear admiral in the Navy. . . . **Ed Lord** was appointed as chief industrial engineer at Eastern Fine Paper and Pulp Division of Standard Packaging Corporation in July. He joined the Eastern Division following several years in the management consulting and industrial engineering fields. During the latter part of World War II he served as a lieutenant in the U.S. Navy Submarine Service, Pacific Theater. Following his separation from the service, he progressed through a number of supervisory and industrial engineering positions, his most recent previous capacity having been that of senior engineer and partner in a New Jersey industrial consulting firm.

This letter from **Dumont Rush**, written from Belgium in June, is another example of the worldliness of our classmates: "As a member of the class of '43, it is past time that I should write to you to at least make my presence known. For more than

three years, I with my wife, Cordelia, and three daughters, have been living at Centre d'Etude de l'Energie Nucleaire in Mol, Belgium, during the construction of the 50MW engineering test reactor, BR2. I represent the Development Division of United Nuclear Corporation, formerly NDA, and in August I expect to return to our home in Chappaqua, N.Y., to assume the responsibilities of Manager of Development Engineering in our company's White Plains office.

In July **Tom Bennett** of Fanwood, N.J., was promoted to the position of administrative manager of The Lummus Company's Engineering Development Center in Newark. A veteran research engineer, Tom joined Lummus in 1946 following his service as a captain in the U.S. Army Ordnance Department. Prior to this promotion he was manager of the Pilot Plant Construction Department. Tom and his wife are the parents of five children. . . . **Wilbur B. Davenport, Jr.**, of the Department of Electrical Engineering at M.I.T., was appointed associate director of the Research Laboratory of Electronics at the Institute. . . . I have been trying to communicate with **Bert Saer**, and sent him a postcard to his former address in Madrid, Spain, which was returned with all kinds of foreign languages stamped on its face. However, I did receive a change of address which states that he is now at 17 Cadogan Court, Draycott Street, Chelsea, London, SW 3, England. . . . **Stan La Vallee** moved to Burlington, Mass., with Technical Operations, Inc., from Los Angeles, Calif.; **Jim Libby** moved from Mill Valley, Calif., to 207 West Hastings, Vancouver 3, B.C., Canada; **Reuel W. Curtis** moved from Long Branch, N.J., to the Embassy of the United States of America, Vienna, Austria; **Doug Scott** moved from Portland, Maine, to 1808 Coquina Drive, Sarasota, Fla.; and, believe it or not, the above mentioned **Dumont Rush**, is back in New York as he said he would be in his letter, living at 59 Kipp Street, Chappaqua, N.Y. . . . **John Gardner** moved from New Jersey to 429 Benignus Street, Houston, Texas; **Walt Hildebrand, Jr.**, from Chicago to Spooner, Wis.; **Charlie Holt** from Pittsburgh to 215 Forest Street, Madison, Wis.; **Arthur Karnuth** from Buffalo to Florence, S.C.; and your class secretary hasn't moved at all but is still located in West Hartford, Conn., where he would be very happy to receive letters, phone calls, telegrams, cablegrams, and any other form of communication from his classmates. Please write and keep the pot boiling!—**Richard M. Feingold**, Class Secretary, 10 North Main Street, West Hartford 7, Conn.; Assistant Secretaries: **Christian J. Matthew**, Arthur D. Little, Inc., 314 Battery Street, San Francisco, Calif.; **John W. McDonough, Jr.**, Meisner Engineers, 300 West Washington, Chicago, Ill.

2-'44

Here we are once more, and I hope that you all have had as pleasant a summer as we did. During the summer, I ran into a number of the fellows, and several

took me up on contacting me while they were in the area. **Chet Woodworth**, who was in the area, indicated that he is with Monsanto Chemical in Springfield, Mass., working on R. & D. in foam products. He had run into **Don Phillips** who is with American Cyanamid in Wallingford, and **Fred DeBell** who is in consulting work with DeBell and Richardson.

We received a very nice note from **Frank Carroll** in which he indicates that he is living in Park Ridge, Ill., and has a family of five children aged 2 to 13. Frank organized Decks, Inc., eight years ago, and now has offices in Chicago, Clearwater, Fla., and Davenport, Iowa. They specialize in design and construction of roof deck systems for commercial and industrial buildings. Frank goes on to say that he had had a recent visit from **Mel Becker** who is married and has three children and is a project engineer with Bethlehem Steel at Sparrows Point, Md. Frank and his wife Kathleen spent an enjoyable evening in Boston with **Al Hart** and his wife Louise. Al was host at a real Boston fish dinner at Jimmy's Harbor-side. **Ken Eberhard** who transferred to '47 has visited the Carrolls on several occasions while on his way to Europe. Ken now resides in Forks, Wash., with his German wife and three children. Frank doesn't tell us Ken's eight-hour occupation. Since this is the first letter that Frank has written in 17 years, I certainly appreciate receiving it. Hope we hear from you again soon, Frank.

A squib in Electronic News for May indicated that Dr. **Albert B. Van Rennes** had been named to the new post of director of Bendix Corp.'s European scientific and technical liaison office in Paris. My last address for Al was as vice-president of United Research, Inc. in Cambridge. . . . Going to the other extreme of the globe **Henry Strecker** has been appointed chief chemist for quality control of the Crockett Refinery of the Californian and Hawaiian Sugar Refining Corporation. Prior to moving to Hawaii, Henry had been living in San Jose, Calif. . . . Was at the M.I.T. Club of N.Y.C. and ran into **Bob Meny** who is with Socony Mobil in Manhattan. He is in the engineering department, and does some international traveling, having been most recently in Australia for five months. He married a girl from Dunfries, Scotland, the home town of Robert Burns. The family includes two boys, aged one and five. Also at the club was **Al Corona**, who is with the same company. Al and his wife Marilyn live on Long Island with their two girls. Al has also been traveling and was recently in Turkey for three months, and in Morocco for another three. The Moroccan tour included stays in Rabat and Casablanca. Al indicated that Long Island looked pretty good after the trips.

I was in Chicago this week, and had a chance to call **Bob Faurot** who indicated that he was up to his ears in work. He said that he hadn't run into many of the '44 men recently outside of **Lew Tyree**, and **Dave Jealous**. Tried to contact both of these fellows, and they were both out of town. So, I hope that they will write me and give me a rundown on their activities.

Had a long chat with **Bill Hopkins**, XIII, the other evening. He is living in Darien, Conn., and works as a naval architect for Ore Navigation Corporation, a division of Bethlehem Steel. His office is located at the tip of Manhattan Island, where he can watch the ships come into New York Harbor. He is presently engaged in the design of the largest ore carrier in the world, which is to be a 50,000 deadweight ton ship. It is to be used for hauling ore from Africa and South America to U.S. ports. He advises that Darien is full of Yale and Princeton men, and that he would like to hear from other classmates in the area. . . . Your secretary has an apology to make. It appears I received some incorrect information on the family status of our Class Agent, **Norm Sebell**, II. He is happily married and his wife needed my reporter when she read the notes indicating Norm was still a bachelor. I hope that this moves some of you to drop me a note, so that the news is published correctly. . . . See you next month.—**P. M. Heilman**, Secretary, Reflectone Electronics, West Main Street, Stamford, Conn.

'45

The summer has come and gone since we were last together. Fran and I hope that you had an enjoyable vacation and we suspect that you were all pleased to have the little dears back in school earlier this week. Yes, it was just 19 years ago that many of us first left home to seek an education on the Charles. The education we have, and many of us probably feel it seems like more than 19 years! . . . Education—in fact a way of life—is the stake in the Second Century Fund. Many of your fellow classmates are playing a small part by actively aiding in the regional solicitations. We can all play a much larger part by helping to put the SCF over the top before the year ends. Let's have the Class of 1945 near the head of the list in participation.

Last May 20 at Lake Quinsigamond in Worcester was a most enjoyable day for several of us in the New York area. Hal Thorkilsen, Al Bowen, John Rudolf, Bob Weber, Chick Street and myself made a day of the Eastern Association of Rowing Colleges Sprints. As reported elsewhere, Tech had crews in all six finals; although the freshmen lightweights were the only group to finish first; we all had plenty to yell about. If you will examine the names carefully you will note that your class secretary was allowed along only as a chauffeur. **Hal Thorkilsen** moved back to Colgate's main office in New York in January with Lois and the kids following in early June. The Thorkilsens live on Devon Road in Westport, Conn., and from what Hal said the other day the kids long for the Denver weather after these past few weeks. . . . **Al Bowen** you will recall originally was a '45'er. Al now lives in Old Greenwich and is in the family shipping business down on New York's waterfront. John Rudolf, '48, after many years in the Minneapolis area, now lives in New Jersey where he is engaged in the

leather business in Newark. Bob Weber, '50, one of Tech's greatest crewman, is with Scovill Manufacturing in Waterbury, Conn. **Chick Street** continues successful in his Volkswagen operation in northern Rhode Island.

Speaking of Chick reminds me that **Tom Hewson** recently played tennis with the husband of one of Chick's "formers," the old Sweetheart of Course XIII, **Ruthie Ross**. Many of you will remember how Chick used to buy **Jerry Patterson**, **Red Harrington**, and me "hush" coffee with Ruthie over in the Coop between classes. You will all remember Ruthie's father, Wally, formerly director of the TCA and now executive secretary of the Student Christian Movement. . . . **Ed Stoltz** reports that '45 continues to operate the M.I.T. Club of Western Pennsylvania. Ed is president, Jerry Hahn, '47, is program chairman, and **Bill Humphreys** manipulates from the treasurer's position. All are active in the SCF. Ed closed his letter by asking what arrangement had been made with **Bob Symonette** and Nassau for our 20th! . . . **Ray McDowell** called last spring to report that he is now associated with Airborne Assessories Corporation, in Hillside, N.J., after several years in Rochester, N.Y. Ray is Industrial Products Manager working on, for the moment at least, special reducers in the power field. Ray, I have lost your phone number; please give me a call.

Al Balsa, '47, reports that **Ed Ferrantino** is with Lily Tulip in Springfield, Mo. . . . **Whitney M. Young, Jr.**, dean of the Atlanta University School of Social Work, was recently named executive director of the National Urban League. . . . **Jim Hardigg**, President of Hardigg Industries in South Hadley, Mass., continues to present papers at meetings of shippers and traffic people. . . . **Russ Hamon**, who was originally an ASTP meteorologist with our class and later a Course I graduate, recently joined the Agricultural Research Service at Mississippi State after several years with the Travelers Weather Service in Hartford. . . . **Walt Kalesa** became merchandising manager for General Motors Delco-Remy Division earlier this year. Walt has been with GM since graduation, spending the first few years as a recruiter in New York.

The following classmates attended Alumni Day in Cambridge last June: Mr. and Mrs. David P. Flood, Mr. and Mrs. Charlie Hart, Mr. and Mrs. Bob Maglathlin, Mr. and Mrs. Henry Nickle, Warren Miller, Jim Pickel, Jerry Quinnan, and Ted Nathanson. . . . If Paul Heilman, '44, does not have notes this month, it is because he is actively working as one of my SCF aides! I may not be on hand either unless you folks spring some news for Springer!—**C. H. Springer**, Secretary, Firemen's Mutual Insurance Company, 420 Lexington Avenue, New York 17, N.Y.

'46

The reunion is over, but the memory lingers on. **Jim Craig** and his committee are certainly to be commended for their fine job. Almost everything was perfect.

The only sour note in the whole weekend was the weather. It was typical New England weather, ranging from very bad to very good. Friday was somewhat foggy, but otherwise not too bad. We had a real wild thunderstorm Friday night and Saturday turned out to be overcast, with occasional rain, and 30 to 40-mile-an-hour wind all day. The avid golfers among us were rather disappointed Saturday, but Sunday turned out to be a next to perfect day. The weather was in the 80's and the visibility was perfect, and the lovely setting of the Snow Inn at Harwichport really showed itself to best advantage. The accommodations at the Snow Inn could not have been improved upon and the food was excellent and much more than any of us should have eaten. Over one hundred people had planned to attend the reunion, but at the last moment, for various personal reasons, the Moyers, the Wrights, the Sieberts, the Marks, the Taylors, the Wentschs, the Ritterhoffs, and the Krenkels found they could not make it. The 88 who did attend are listed below: Don Hurter, 40 Fisher Street, Norwood, Mass.; Mary and Louis Martin, Valley Road, Concord, Mass.; Mary and Bill Jackson, 910 N. 27th Street, Allentown, Pa.; Betty and Ray Brown, 3 Berkeley Road, Scarsdale, N.Y.; Ed Finigan, Walnut Street, Concord, Mass.; Pat and Frank Westcott, 38 Commonwealth Avenue, Attleboro, Mass.; Lindsay and Bob Fried, Aberdeen Farms, Staatsburg, N.Y.; John Green, 8 Tally Ho Lane, Wayland, Mass.; Sue and Rick Adler, 1109 State Street, New Orleans 18, La.; Laura and Bud Brylawski, 224 E. Capitol Street, Washington, D.C.; Ginny and Herb Oedel, 166 Upham Street, Melrose, Mass.; Connie and Bill Becker, 232 Taunton Avenue, Norton, Mass.; Virginia and Max Daggett, Jr., 6417 Waggoner Drive, Dallas 30, Texas; Marion and Bob Toperzer, 99 Pine Ridge Road, Reading, Mass.; Ann and Jim Finney, Jr., River Road (N. Mianus), Cos Cob, Conn.; Margie and Ted Henning, 24 Madison Park Gardens, Port Washington, L.I., N.Y.; Joni and Dick Krahe, Jr., 1112 Ryegate Road, Towson 4, Md.; Mildred and Ted Heuchling, 43 Holdenwood Road, Concord, Mass.; Jeanne and Herb Hansell, 1759 Union Commerce Building, Cleveland 14, Ohio; Peg and Don Robison, 34 Virginia Road, Manchester, Conn.; Marilyn and Bob Spoerl, 136 High Street, Exeter, N.H.; Sue and Seward Kennedy, 150 East 42 Street, New York, N.Y.; Charlotte and Bill Schield, Jr., 2723 E. Newton Avenue, Milwaukee 11, Wis.; Elsa and Roger Sonnabend, 464 Commonwealth Avenue, Boston 15, Mass.; Janet and John Maynard, 15 Cabot Street, Winchester, Mass.; Diane and Jim Craig, 4 The Valley Road, Concord, Mass.; Ann and Cliff Sibley, 36 Peacedale Road, Needham, Mass.; Jean and Stuart Edgerly, 60 Radcliffe Road, Wellesley, Mass.; Ginnie and Gene Parish, 34 Valley Road, Concord, Mass.; Gloria and George Ley, Jr., RD #1, Allison Park, Pa.; Betts and Don Shelton, 1274 Walker Avenue, Baltimore 12, Md.; Priscilla and Ned Tebbets, Jerusalem Road Drive, Cohasset, Mass.; Penni and Stan Young, 32 Amherst Drive, Hastings-on-Hudson, N.Y.; Fran and Jim Corbett,

15 Smart Road, W. Acton, Mass.; Pat and Donald Burke, 1818 Caesar Way South, St. Petersburg 12, Fla.; Pat and Clarence Lyon, 4 Prince Avenue, Winchester, Mass.; Grace and David Hoag, Winthrop Street, Medway, Mass.; Ernie Buckman, 270 Grant St., Sewickley, Pa.; Marianne and Bob Nelson, Jr., South Main Street, Sherborn, Mass.; Henry Ward, Jr., 1815 Savo Court, Timonium, Md.; Lynne and Ed Richardson, 1331 Old Worcester Road, Framingham Center, Mass.; Corinne and Ken Davis, Jr. 9119 Aldershot Drive, Bethesda, Md.; Russ Dostal, Birmingham, Mich.; Ellin and Hugh Jackson, 903 Twyckenham Road, Media, Pa.; Lois and Stan Blitzer, 10 St. Mary's Street, Newton, Mass.; Doris and Shep Arkin, 25 Whipple Road, Lexington, Mass.; Bill Cahill, Beverly Hills, Calif.; Jim Chabot, 4160 Harding, Dearborn, Mich.

Almost everyone managed to arrive in time to attend the Punch Bowl Party at the beach house. Dinner was held in the main dining room and then everyone adjourned to an adjoining building. The committee had obtained from Harold's Club in Reno two large boxes of equipment for the party. Included were roulette wheels, poker cards, large stacks of thousand dollar bills, dice, and decorations galore to set the stage. Upon entering, everyone was given \$25,000 with which to gamble the evening away. At the end of the Gambling Party an auction was held of M.I.T. crest decorated glasses, cocktail shakers, ash trays, etc., with the better gamblers being in the best position to bid. Saturday morning, after a leisurely breakfast, about 50 of us boarded a sight-seeing bus for a tour of the outer portion of the Cape. Despite the inclement weather, this proved a very interesting tour. Those who did not go on the tour spent their time playing shuffleboard in the stiff wind and mist, and otherwise getting acquainted with old friends. At noon, at the Beach House, we all enjoyed the steamed clams and boiled lobster dinner. The afternoon was spent in various convivial groups and about a dozen of us went swimming in the surprisingly warm ocean water. Thanks to the foresightedness of the Reunion Committee a foul weather plan had been prepared for Saturday and a number of couples enjoyed an afternoon of square dancing.

Late in the afternoon a class meeting was held. President **Herb Hansell** opened it and Class Treasurer **Ned Tebbets** reported that the class treasury had about \$640 in it, the bulk of that being excess profits from the 10th Reunion. He further reported that the expenses of the 15th Reunion would probably exceed income, mainly due to the reunion committee's having gone somewhat overboard on a reunion remembrance which would be passed out later. Ned further pointed out that if five years ago the class had invested the \$600 it then had in the treasury it would be considerably richer. He suggested that the class officers about to be elected should be empowered to invest the treasury, or a part of it, and the meeting so voted. (The next day the class officers met and decided against investing the money because of various legal problems which would present themselves.) Your

secretary spoke briefly thanking everyone for his support in the past five years and requesting continued support in the next five years in the form of frequent and newsy information about himself. Next, Herb Hansell suggested that after three reunions, all run by essentially the same people in the Boston area, it might be a compassionate idea to call on a different group for the 20th Reunion, and he served notice on the New York delegation that in about four years they might be called upon to run our 20th Reunion. The final business was the election of Class Officers for the next five years. **Gene Parish** headed a nominating committee; and after expressing thanks for the fine job done by all the class officers, most of whom have held their posts for the last 15 years, he suggested that they deserved a rest and that it was time for someone else to do the work. Consequently, he presented a slate of new officers and the class voted unanimous approval. (The only one who did not get off the hook was yours truly.) The new officers are **Clarence Lyon**, President; **Bill Schield**, Vice-president; **Ken Davis**, Treasurer; **John Maynard**, Secretary; **Ted Henning**, Class Agent; and **Bill Cahill, Rick Adler, Ray Brown, Herb Hansell, and Don Hurter**, Class Council.

The serious business having been concluded, we had a cocktail party and adjourned to the main dining room for the Class Banquet. At that time the commemorative gift was passed out. It was a two-quart pewter Paul Revere wafer pitcher suitably engraved to commemorate the 15th Reunion. After dinner, we again adjourned to the beach house for an evening of dancing to the fine music produced by a four-piece orchestra. Thanks to the Blue Laws which had recently been found to be legal by the Supreme Court, it was necessary to suspend official operations at midnight, but also thanks to some fine organizational work on the part of Bill Cahill a large delegation adjourned to the suite occupied by our unsuspecting new proxy, C. S. Lyon, and his forebearing wife, Pat. I couldn't even guess when that party ended, because when Jan and I left at 1:30, it was just starting to roll.

Sunday the athletic facilities were attacked from all directions. Some went off to local clubs for golf or tennis. The three Tech dinghys which the committee had brought were in constant demand. The Snow Inn has a large bowling-on-the-green facility and although no one understood the game at the start, expert advice from the management helped a number of us to enjoy that sport. A large putting green on the grounds saw plenty of action. A volley ball net was erected and a marathon game was underway most of the morning. The game produced more sprained ankles and broken street lamps (some of the shots were pretty wild) than it did good volley ball, but it was a lot of fun for everyone. At 1:00 P.M. everyone adjourned to the bar at the beach house for Bloody Marys, and shortly thereafter, a most delicious chicken barbecue was served. After dinner, the official reunion came to a close, but a few fortunate people returned to the sailing, the swimming, and the other facilities available.

When we were planning the reunion we wrote to ex-Commander Canfield to see if we could interest him in being our guest speaker. Unfortunately, he could not make it, but I would like to print his note of regret: "Shades of Mulroy, Gintoff, Maki, P. Y. Craig, Dr. Sullivan, and Captain Buracker! A lot of water has flowed under the Charles River bridge since that structure was deemed off-limits to all V-12 personnel (except on weekends). And the memory of those tense Saturday morning inspections grows a little dim. That is all but one—the day I hit the jack pot and found a rich haul of illegal uniforms, civies, and other banned items hidden on the roof of the Graduate House. It was a climax of heroic proportions. But if I had it to do all over again, I think I would have given the culprits an hour or so to remove it from sight before applying the restrictive penalty that always followed the crime, under the awesome eagle eye of the long-departed Captain Joyce. That, I hope, should convince you that the mellowing effects of age have taken hold of one former O-in-C. I wish I could be with you at your 15th Reunion. But Yale demands my presence here until after Commencement on the 12th. Nevertheless, I shall be thinking of all of you and wishing you well in your endeavors. Maybe it will be possible to make your 20th in 1966, if I can navigate by then! Warmest regards. Cordially yours, F. Curtis Canfield, Dean, School of Drama, Yale University."

I would be remiss if I did not again express thanks to all who went out of their way at the reunion to express their thoughts to me regarding this column, and also to again thank everyone for the cocktail glasses and shaker. Until next month, when we will get back to reporting the latest business coups of '46ers, I remain your secretary.—**John A. Maynard**, 15 Cabot Street, Winchester, Mass.

'47

First, before giving you any of the belated news from the last six months, please start putting your pennies aside for the 15th Reunion next June. I do not have definite information for you concerning the place yet, but you can be certain that it will be the weekend of June 7, 8, and 9.

Shortly after the middle of April, I received a letter from **Claude Brenner** concerning the Centennial Celebration events at Tech, which he attended: "You might want to print the names of those who attended the Alumni Banquet. '47 was represented by two tables at the Baker House affair which was for '43 through '52. Attending with their wives were Dick Knight (Joan), Jack Castles (Janie) and Will Rowan (Isabel). Also dining with us were Mort Loewenthal, Morgan Cooper, Byron Lutman, Alex Ward and Bob Kamm. The President's reception before the dinner was sprightly and noisy. The Strattons spent a good half hour with us. It must have been an exhausting week for them. The Convocation on Sunday was a magnificent climax to a thrilling week. The solemnity, the color, the high pur-

pose, the humor—a very moving and inspiring event." As a postscript, Claude made a trip to Los Angeles in August, and telephoned me; we were able to get together for an evening, and had some preliminary discussions concerning the 15th reunion. Claude is still chief engineer for Air Research Associates, and makes frequent trips around the country and to different parts of the world.

George Brooks, who has been ordained a Unitarian minister, was married to Miss Priscilla Alden Jones of Boston this year. He is pastor of the Adams Memorial Unitarian Church at Dunkirk, N.Y. . . . Also earlier this year, **Bill McClelland** of Norwalk, Conn., was named by Secretary of Commerce Luther Hodges to a seven-week trade mission in Germany. Bill is an official of IBM, in Norwalk; he is married to the former Katharine Hickman of New Orleans; and they have three children. . . . In the Boston Traveler, there was a recent article concerning **Hilmi Arslan**, one of the two engineers who developed the Sanborn-Frommer cell counter. This is a machine to take a blood cell count within 25 seconds, by optical-electronic means. . . . **Rufe Franklin**, who has been an assistant patent attorney for the Behr, Manning Division of the Norton Company, has been appointed a patent attorney by the Norton Company. Rufe obtained his law degree from George Washington University, and spent some time at the U. S. Patent office in Washington before joining Behr-Manning. Previous to his appointment, he was in the Behr-Manning offices in Troy, N.Y. . . . At Hartford, Conn., Dr. **Paul Bock** has been appointed senior research scientist at the Travelers Research Center. Dr. Bock's previous position was at the University of Delaware, where he was associate professor of civil engineering. Prior to that, he was with the Pennsylvania Water and Power Company, assisting in hydrologic investigation of the Susquehanna River basin. . . . Also, from the Hartford area, we have received a clipping concerning **Ed Kane**, who is now president of the National Sherardizing and Machine Company; Ed's company does electro-plating, chemical metal conditioning, finishing and other operations in the metals field. Ed is a past president of the M.I.T. Club of Hartford, and has been a sometimes informant for this correspondent. . . . We have also received news concerning one of our graduates with whom we had lost touch, **Burt Lasko**. He received his master of engineering administration from Washington University in St. Louis in June of this year; congratulations. . . . **Warren Spear** has been appointed manager of Foundry Engineering and Metallurgy for Mack Trucks in Plainfield, N.J. In this new position, Warren will provide technical foundry assistance to and act as liaison between supplier foundries and operating departments responsible for planning, developing, and coordinating Mack's casting requirements. Warren is a graduate in Course III. . . . **Dick Mooney**, Course X, has been elected president of the Chemical Industry Association in New York City. Dick, who is president of the Corpex Chemical Company, a chemical sales and consulting

firm in Bernardsville, N.J., presently lives in New York, is married, and has two children, both girls.

On the West Coast, **Winnie Bennett** is presently doing research work at the University of California in Berkeley. . . . In the San Francisco area, **Virginia Ferguson Hildebrand** and her three children are living on campus at Stanford University at Palo Alto. . . . **Don Thomsen** wrote a rather formal note to The Technology Review earlier this year, concerning the arrival of their daughter, Melinda Rollins Thomsen, in February. Belated congratulations, Don! . . . **Mark Dickson**, president of the Morris and Dickson Company of Shreveport, La., was ordained in August to the Sacred Order of Deacons as a perpetual deacon in the Episcopal Church. As a perpetual deacon he remains in his secular employment while serving his parish in a part-time ministry. Even though Mark had not attended a theological seminary, his ordination was authorized by the Church under a provision which permits laymen to study privately for the ministry. He was, however, required to pass the same examination as seminary graduates. He has been studying privately for the last six years. . . . At Alumni Day in June, the following members of the class were present: Claude Brenner, Mort Loewenthal, Mary Phillips, J. Laurence Powell, Jack Rizika, Irving and Mrs. Schwarz. Falling so closely behind the Centennial Celebration, a small turnout of our class was anticipated; however, look to June of 1962—it's for you!—**Arthur Schwartz**, Secretary, 8355 Blackburn Avenue, Los Angeles 48, Calif.

'48

Progress has not passed by our class. The following are items from the summer press: **Fred C. Bailey** of Lexington, Mass., has been elected president of Lessells and Associates, Inc., a Boston engineering firm. . . . **Arnold H. Smith** of Westfield has been named director of quality assurance of the Lockheed Electronics Company. Arnold will be responsible for the quality and reliability of equipment manufactured by the Military Systems Division. . . . Recently named president of the American Society for Quality Control is Dr. **Armand V. Feigenbaum** of New York City, a former General Electric Company employee. The organization's activities include quality control engineering, research and development, and product engineering. . . . **Nicholas DeWolf** of Boston, president of Teradyne, Inc., is building a transistor tester that will last ten years, which is quite an improvement over the unreliable testers of today. . . . Announcement was recently made of the promotion of **Philip R. Marsilius** to second vice-president of the American Society of Tool and Manufacturing Engineers. . . . Promoted to the position of associate professor at Rensselaer Polytechnic Institute of Troy, N.Y., is Dr. **Tseng Yeh Chow**. . . . **Charles W. Adams** has been appointed president of the electronic data processing firm of

Charles W. Adams Associates, Inc., in Bedford, Mass. . . . Winner of the Best Paper Award at the American Chemical Society Division of Rubber Chemistry in Louisville, Ky., was **Robert Murray** of Wilmington, Del. . . . Dr. **Roy Amara** of Menlo Park, Calif., has been appointed manager of the General Systems Department of the Stanford Research Institute's Engineering Sciences Division. . . . **David A. Finnegan** of East Greenwich, R.I., has been named production coordinator for Photek, Inc., a Textron subsidiary in Providence. His duties will be in the photocopying materials and equipment field. . . . **Leroy W. Janson** of Pennsylvania has been appointed vice-president in charge of manufacturing and engineering at Sprague and Henwood, Inc., Scranton, Pa. . . . Dr. **Lyman W. Morgan** of Baytown, Texas, has recently joined the Humble Oil and Refining Company.

This month's news is practically all career information, a result of our dependence on the clipping service. Consequently, I issue the annual plea for postcards and letters with some personal news.—**Richard H. Harris**, Secretary, 26 South Street, Grafton, Mass.; **Harry G. Jones**, Assistant Secretary, 94 Oregon Avenue, Bronxville 8, N.Y.; **Herbert Kindler**, Assistant Secretary, 128 Elatan Drive, Pittsburgh 16, Pa.; **Robert R. Mott**, Assistant Secretary, Box 113, Hebron, Maine.

'49

It hardly seems possible that the tenth reunion is more than two years gone by and that I am starting Year Three of my tour as class secretary. May I ask your help in this noble endeavor? Do not just sit there; get out, make news, and tell me about it. . . . Our class attendance at Alumni Day on June 12 was small this year (due in part to the Centennial affair on April 8 which was well attended). Those who represented us were: A. W. Bigus, W. R. Bohlman, Mr. and Mrs. A. C. J. Di Mascio, E. W. Eames, Jr., Mr. and Mrs. P. A. Lynn, Jr., and Mr. and Mrs. H. L. Millard.

A news release in the Dorchester Citizen provides the information that **Herbert L. Spivack** (S.B. '49, Course X) is president of the Metachem Resins Corporation of Cranston, R.I. . . . Another release, from the Anaconda Wire and Cable Co., reports a speech made by **Frederic B. Kraft** (S.B. '49, Course XV) at the annual meeting of the Wire Machinery Manufacturers Assn. in New York City on May 1. . . . From Philco comes word that **John J. McCartin** (S.B. '49, Course XV) was appointed to the newly created position of semiconductor sales-administration manager at Philco Corporation's Lansdale Division. . . . A belated announcement notes that **Sidney C. Howell** was appointed General Sales Manager for the Weatherhead Company in Cleveland.

We are starting a new feature this year—a series of biographies of classmates who, for one reason or another, seem to have pasts sufficiently checkered to be of interest to classmates. **Russ Cox** has ar-

ranged the first of these, but let him introduce and sign off the biography in his own words. "Dear Frank: Enclosed is **Jack Barriger's** biography—from his wife (he doesn't know). March 30, 1961—Dear Russ: Here at long last is 'Jack Barriger, My Story' or 'The Taming of a Deke' or 'Along the Santa Fe Trail with J.W.B.' or whatever. I'll start with a rundown of where Jack has worked and then go into his present activities. September, 1949—graduated M.I.T., B.S., XV-D. June, 1950—received a Certificate in Transportation at the Yale University Graduate School of Economics. The course in transportation was under Professor Kent T. Hearn. July, 1950, to March, 1952—Jack was a Traveling Car Agent based in Chicago. According to the information I have, he 'had' staff duties investigating freight car supply and distribution and observance of DDR Car Service Rules on Santa Fe Lines between Chicago and Denver, Albuquerque and Galveston. Obviously, he didn't spend much time in Chicago. March, 1952, to February, 1953—Transportation Inspection, Amarillo, Texas (working in the Texas Panhandle and Eastern New Mexico). From what I can gather, a T.I. spends a great deal of time working with shippers to prevent damage to freight. This is particularly important with perishables and products that are relatively fragile. I'm sure Jack saw a great deal of grain loaded when he worked in the Panhandle. A T.I. has another job too—and please keep in mind that the railroads have very few accidents (you see, I'm an advanced case of being brainwashed). They supervise the disposition of freight damaged in derailments. February, 1953, to June, 1954—Trainmaster at Carlsbad, N.M. I'll tell you where he has worked at this job and then at the end will tell you some of the responsibilities of the work. Anyway, this line serves the potash mines in the Pecos Valley. It runs from Clovis, N.M., to Pecos, Texas. June, 1954, to February, 1956—El Paso, Texas. Again a branch line but of greater size and importance, serving the Rio Grande Valley and the mines of southwestern New Mexico. I joined the party in El Paso, so from now on I can speak with the authority I don't really have. February, 1956, to April, 1958—Winslow, Ariz. Main line from Winslow to Albuquerque, N.M. There are just a few industries on this line, such as uranium mines and oil refining. Most of the effort was concentrated on getting trains through on time and in a hurry. When a man's office is 350-plus miles long, it means that he is gone 2/3 of the time. One year Jack was out of town 186 nights (according to his expense account) and, because so much work piled up at his Winslow office, he spent much of Saturday and Sunday there. Jack was virtually on duty all the time—and he was on call all the time. His hours were quite flexible. April, 1958, to now—Los Angeles, Calif., Terminal Division. At least now Jack has set hours, but oh boy! For the first year-and-a-half Jack worked from 7 P.M. to 7 A.M. for 12 days and then had a two-day weekend off. Now he works just the 12 daylight hours—still a

12-day week. A trainmaster is—I was about to say a little of everything, but I'm sure his job is more definite than that—in charge of the men who operate the railroad. The Santa Fe is divided into three departments: 1) Mechanical—in charge of building and maintaining cars and locomotives; 2) Engineering—in charge of construction and maintenance of the track and all that goes beside it (Boy, that's a general term!); 3) Operating—in charge of making up, breaking up, and operating the trains. No. 3 is where Jack comes in. In Los Angeles he supervises about 1,000 employees, such as conductors, engineers, brakemen, firemen, telegraph operators, agents, dispatchers, etc. Since he does the hiring and firing, he's also a bit of a father confessor. He has found lost wives (or husbands), helped (or firmly suggested that) men get on the wagon, has tried to help them straighten out financial problems, and all sorts of things like that. There are other little problems too—meeting the business cars of officers to see that they arrive with the greatest possible finesse, consoling perturbed customers, getting special trains out, moderating the difficulties the local chairmen of the unions seem to find. But in the final analysis, his job is to keep the trains moving efficiently. I don't know if you're interested in Jack's after hours—what there is of them—but he does do some things besides work. Both of us had friends in Los Angeles before we moved here and through them we have met more good friends. During the winter we ski as much as time and our budget will allow. Sailing is almost a year-round sport in southern California, but we go to Balboa mostly in the summer and fall. We don't own a boat—our next move may be to Kansas. We have both been taking courses at U.S.C. and City College. We have taken a number of weekend trips to see this area—as one does when a transfer is imminent. Well, that's the story of good old Jack. Deke, our Weimaraner, and I would like to add an affectionate finis to this biography but we're afraid of getting too sentimental.—Evie. . . . Russ Cox completes his covering letter as follows: "Some additional notes are: He is one of four trainmasters in the Los Angeles yards. There are about 25 trainmasters on the entire Santa Fe. He was and may still be the youngest trainmaster on the Santa Fe. He is also an urban resident, and in L.A. this is unusual. Lives in a very attractive apartment downtown."

Next month another biography, this time arranged by **Wally Row**. If any of you gentle readers have nominations for characters to be included in this series, please send me a note, or better yet, dig out a biographical sketch yourself and send it along.—**Frank T. Hulswit**, Secretary, 14 Nadine Road, Saxonville, Mass.

'53

Dear Girls and Boys: I am sorry that no notes will appear in this issue; but yours truly (and the U.S. mail) goofed and failed to submit copy on time. C'est la. . . . P.S., please fire me for incompe-

tence; no references needed for applicants. . . . See you next month (if I ever find out when the deadline is).—**Martin Wohl**, Secretary, Room 1-131, M.I.T., Cambridge, Mass.

'54

Since I now have the title of assistant professor of mathematics, I decided to do a little calculating, free of charge, for the class, and unless I unwittingly introduced too large a round-off error, this turns out to be the beginning of our eighth year as alumni. Seventeen more years, and we'll be having our 25th reunion. It doesn't seem possible. Well, let's pick up our beards and see what's new. . . . The past summer saw a new crop of degrees for some of us. **Stewart Smith** and **Jack Overley** both acquired doctorates at Cal Tech, Stewart in geophysics and Jack in physics. . . . **Ray Freeman** received his doctorate in physics at Tech. . . . **Charlie Leonard** made off with an M.S. from the University of Vermont. And yours truly finally acquired a doctorate in mathematics at St. Louis University.

Art and Beverly **Haines** have a new daughter, Beverly Kyle, born August 6. The Haines's are currently at home in Atherton, Calif. . . . **Elizabeth Clark Moroney** has a daughter, Anne, born July 4, 1960. Elizabeth is working part-time as a technical writer for the Badger Manufacturing Company, Cambridge, Mass. She was, as far as I know, our only representative at Alumni Day last June 12. . . . **Jean White Fisch** also has a young daughter, Susan, born November 10, 1960. Jean is designing offices for the Time-Life Building in Rockefeller Center, New York, these days. . . . **Paul Goldin**, who toils for RCA, Camden, had a few words to say on "How RCA Meets AGREE Requirements" to the annual convention of the American Society for Quality Control on June 5. . . . **Gordon Smith** has been promoted to chief engineer of the Monitor and Control Division of Fenwal, Inc., Ashland, Mass. . . . **Paul Spreiregen** dropped us a note saying that he has been in Washington, D.C., since April, 1960, with the National Capitol Downtown Committee. He and his cronies on the committee, which is a private group, are trying to renew the area between the White House and Union Station in Washington. I wish them luck. And Paul, I'm sorry I didn't get a chance to see you before I left the Washington area, but your letter arrived in the middle of my packing for the trip back here to St. Louis. . . . Our long-lost elder statesman, **Dean Jacoby**, has again emerged from the shadows, and reports that he is now back in Alton, Ill., where he and his brother have formed a small group to gain control of C. J. Jacoby and Company. He says there is no fantastic progress to date, but to keep our eyes on Fortune. Dean also mentions that he and Judith visited **Dick** and **Charlee Wallace** in Phoenix last April on their way to Mexico. The Wallaces, apparently, are surviving. And so, apparently, are Marcia and I. Our second offspring is due any

second now. Should have a full report next month.—**Edwin G. Eigel, Jr.**, Secretary, 3654 Flora Place, St. Louis 10, Mo.

'55

Ten years ago at this time (early September) the members of the Class of 1955 were preparing to leave for M.I.T. for Freshman weekend or perhaps Rush Week. In many respects it seems more like a hundred years ago! Yet some experiences are quite vivid: the agony those first few trips across the Harvard Bridge caused this ex-Floridian, not unaccustomed to walking, but unaccustomed to wearing shoes all day long!; the line-up for those rogue's gallery portraits which were to comprise the invaluable, if unflattering, Freshman Handbook; the first 5.01 lab, when nothing went right and the next train home seemed the best way out. I won't forget the admonitions that my freshman section gleefully delivered from the M.S. Department about my repeated absences from M.S. classes either! That period was the beginning of many joys, many sorrows, and above all a lot of hard work for most of us. Would you do it again? . . .

Several classmates have received various honors since our last notes: **Bob Cutkosky** was awarded the U.S. Department of Commerce Silver Medal for Meritorious Service last spring for his work at the National Bureau of Standards in electrical measurements and standardization, about which he has published several papers and articles. . . . **Walter Seelbach** at the IBM Yorktown Research Center, published an article in the April IBM Journal of Research and Development on his work in the field of high speed magnetic memory systems. . . . **Paul Quay, S.J.**, was ordained a priest in June at West Baden College in Indiana, where he is presently completing his final year of study in theology. . . . A recent deluge of address changes included that of **Edgar Jacobs**, whose work with the Ferry Diamond Company, Ltd has taken him to Southampton, England. . . . **Dave Brooks** and his family have returned to Washington, D.C., where Dave is simultaneously working in mineral economics for Resources for the Future and preparing his doctoral thesis in the same field.—**Mrs. J. H. Venarde**, 107 Mullin Road, Wilmington 3, Del., and **L. Dennis Shapiro**, 15 Linnaean Street, Cambridge 38, Mass., Eliot 4-4901, Co-secretaries.

'56

To open our next five-year period I would like to introduce our new class officers. Our president is **Robert Malster**. Bob and his wife, Joan, are currently building a new home at 24 Alcott Street, Acton, Mass. February 1 is the anticipated moving date. Other than functioning as a sidewalk superintendent and our chief executive, Bob is also a process engineer with Polaroid in Waltham. . . . Our vice-president is **Martin Reiss**, who resides

with his wife, Rhea, and son at 20 Peterson Road, Natick. Mickey finished his doctoral studies in astronautics at Tech in February and is now with Raytheon. . . . Our retiring president, **George Luhrmann**, is entering Columbia Medical School this fall. . . . **Philip Bryden** also resigned as assistant secretary because of a busy research and teaching schedule and U.S.-Canadian postage difficulties.

Here is a brief account of the sensational success of reunion activities. Our stalwart committee journeyed to Jaffrey, N.H., on the morning of June 10, where we were greeted by our congenial host, Mr. Brummer, a driving rain, and tubs of cold beer. Being ever resourceful, we fished out our church key and held a war council on the pending disaster. A suggestion to invite the weatherman to our free cocktail party was immediately rewarded with sunshine which lasted the rest of the weekend. . . . One hundred and thirteen reservations had been received, including 66 for class members. During the weekend 100 took part in the festivities, a few being excused for measles and chicken pox. Gratified by one of the largest groups to ever assemble for a Tech 5th reunion, we attacked another tub of beer. Meanwhile, the circulating cameramen were taking pictures with the cameras from Polaroid Corporation.

As the day and the tubs passed a volunteer decorations committee prepared for the cocktail party, banquet, and dance. Everyone was given a chance to use a little of his hot air filling balloons. At the banquet the nominations committee, headed by **Jack Saloma**, presented the nominations for class officers and a vote was taken. Prizes were awarded to **Marty** and **Flo Saltarelli** for having been married the longest (1952); **Tom** and **Nancy Jones** for being the farthest from home (Stanford, Calif.), even though **John** and **Win Coleman** of Seattle came by way of Europe; and **Tom Doherty** for having received his B.A.R., the most recent degree, (September 1958). Favors at the banquet were cigars for the men and a pack of suitably inscribed playing cards for each person. Inscribed matches were provided by the Inn. Singing and dancing filled the rest of the evening and the band was held overtime. Guest conductor was **Irwin Gross** stopping over on a business trip to New England.

Sunday was a day of relaxation, conversation, and sports. The steak fry was a grand success with the roving photographers giving away many free souvenirs. Late in the afternoon many remained to sunbathe and waterski, but we headed back to Boston for an enjoyable evening at the home of **Doretta Binner Klein** in Arlington. All reunioners were invited, but the unfortunates who did not come missed the wonderful hospitality and hors d'oeuvres of Doretta and Bob. . . . Comment of the weekend came from an alumnus (a spouse of a '56'er) who naturally wishes to remain anonymous, "This was better than my own fifth." Compliment from a wife, "I enjoyed it because children and business were not the major topics of discussion." Vow of all who attended, "I'll bring another classmate to the 10th."

The following week the committee and wives gathered for a postmortem dinner at the Faculty Club, and many improvements were suggested for the 10th. Co-chairman **Fred Culick** and wife, Fritze, bade farewell, since they were leaving for California in August where Fred will teach at Cal Tech. **Bob McGillicuddy** and his August bride-to-be, Mary McGrath, were also in attendance. Thanks are given to the rest of the committee.

The reunion questionnaire was answered by 185 classmates, which is an excellent return for a Tech 5th. In answer to the questions on residence 44 per cent said they still live in the same area from which they entered M.I.T. New England and the Middle Atlantic states still lead, but the West Coast has surged ahead of the Middle West for third choice with the increase coming from the easterners. . . . One or more advanced degrees have been received by 57 per cent of the respondents and 32 per cent are students at the present time. The M.S. is the most popular degree, but Ph.D.'s, M.B.A.'s, and M.D.'s are also significant. Sc.D.'s are rapidly increasing in number with at least a half-a-dozen being received in June. Ninety-two percent of the respondents feel that Tech prepared them reasonably well to excellently for their present jobs. Compare this to the fact that only 50 per cent feel they can be defined as a scientist or engineer. Doctors, salesmen, executives, computer specialists, academicians, are more common than other occupations, but also listed were rancher-art gallery operator, housewife, research psychologist, appraiser, lawyer, technical editor, industrial liaison officer, and policy analyst. . . . Even with the large group reporting as students, the median salary was in the \$8-10,000 bracket, with 27 per cent reporting over \$10,000 and one person over \$20,000. . . . Only 44 per cent had been in the military, and most felt they had performed a useful job. There were a few violent objections in this category. . . . Seventy-three percent are married and they have a total of 167 children split 51 per cent to 49 per cent girls to boys. Over 90 per cent would send their children to Tech. . . . The results of the question on membership in a local alumni club were quite disappointing to me. I feel that these groups offer a wonderful opportunity to get to know other alumni. Their purpose is NOT to drain more money out of you.—**Bruce B. Bredehoft**, Secretary, 1094 Center Street, Newton Centre 59, Mass.

'57

As we enter the fifth year of reporting our activities, each mail delivery brings news of classmates' accomplishments. While we have reported no major illnesses in the class over the last four years, we now have some doctors to take care of any future ones. At Mt. Sinai Hospital, New York City, is Dr. **Jim Rowan**. . . . At Duke University, Durham, N.C., is Dr. **Joe Cohn**. . . . At Kings County Hospital, Brooklyn, N.Y., is Dr. **Earle Weiss**. . . . Dr. **Stan Cortell** was gradu-

ated with honors from Tufts Medical School "cum honore rebus occultis investigandis," which sounds like a type of security clearance. . . . Also from Tufts are Dr. **Al Klainer** (cum laude), Dr. **Dave Quigley** and Dr. **Sumner Savitz**. . . . As a tip to our doctors, we wish to call their attention to a new medical instrument developed by the Sanborn Company of Waltham, Mass. It is the Sanborn-Frommer Cell Counter with which a blood cell count can be made easily and accurately in 25 seconds. An optical-electronic device, it was designed by two M.I.T. men, one of whom is classmate **Tom Hayes**. . . . **Roger Griffin** was awarded his Ph.D. in chemistry from the University of Rochester. . . . **John Stauffer** received his Ph.D. last winter. . . . Cal Tech granted Ph.D.'s to **Howard Merchant** in mechanical engineering and **Elliot Pinson** in electrical engineering. . . . A Sc.D. degree was given by M.I.T. to **Jack Rosenfeld** in electrical engineering. Jack's doctoral thesis was titled "Adaptive Decision Processes." . . . **Alexis Ostapenko** has been promoted to associate professor of civil engineering at Lehigh University. . . . Among those at this year's Alumni Day were Mr. and Mrs. **John Campbell**, Mr. and Mrs. **Vincent Donlan** and **Alar Toome**.

Dick **Blieden**, who has his M.S. from the University of Washington and is working on his Ph.D. from Florida State, was over in Israel this fall rowing in the Maccabee games. Last year Dick went to Rome with the U.S. Crew for the Olympic games. . . . **Gary Dischel** is doing everything imaginable to ensure a maximum turnout at our 5th Reunion. Gary and Judy had an eight pound 10-and-one-half ounce, 20-inch-long girl, Dana Susan, last July 16, and they have promised to bring her to the reunion if you promise not to spill beer on her. . . . Please pay your class dues promptly. It is not that I need the money personally (as **Salzhauer** alleges), but rather that the class needs working capital to provide the deposits which the Reunion Committee must make in advance to reserve facilities for us. Please note my new address. The door is always open (apparently quite literally, too, because I had a burglary in August at the old address). I work in midtown, 44th Street and Fifth Avenue, and the M.I.T. Club is just around the corner.—**Alan M. May**, Secretary, 201 East 66th Street, New York, N.Y.; **Martin R. Forsberg**, Assistant Secretary, 11 Scottsfield Road, Allston 34, Mass.

'58

Incredible as it may seem, summer has passed and we are in the midst of leaf raking and other more mundane tasks. Although The Technology Review and yours truly take a brief respite during the hotter months, news continues. . . . The California Institute of Technology reports that **Robert A. Phinney**, who received his S.B. in '58 and S.M. in '59 from Tech, has received the doctor of philosophy degree with a major in geology, and **Robert Hecht** has received his master of science

degree in physics. . . . Other advanced degree information includes **Wilbur Hull Highleyman**, 2d, recipient of a doctorate in E. E. from the Polytechnic Institute of Brooklyn. . . . P.I.B. also conferred a master of science in E. E. on **Frank Edward Weiser**. Congratulations to all you fellows!

From the clippings I've been receiving it looks as though the number of bachelors in our ranks is fast dwindling. In May **Charles Rossiter Kuehner** and Miss Elizabeth Anne Castenholz were married in Norwich, Conn. Since graduation Charles has attended graduate school at the University of Cincinnati and the University of Maryland School of Physics. Present plans include medical school at Columbia University this fall. . . . April 29 was the date of the marriage of **Timothy Cowles Gillette** and Miss Jane Lash. Tim is now employed as an electronics engineer with Edgerton, Germeshausen, and Grier in Boston while his lovely wife, a Simmons graduate, is a staff member at the Harvard Business School. . . . The wife of one of our classmates, **David J. Rachofsky**, is successfully combining three full-time careers—matrimony, motherhood, and medicine. She has been working under a fellowship in cancer research at a Philadelphia hospital while Dave is an electrical engineer for the Air Force. . . . Received a birth announcement complete in the 18th century Pennsylvania German style from Valerie and **Don Wyckoff**, heralding the arrival of Michele Ballard Wyckoff in June, 1961, in Santa Monica.

Toni Deutsch Schuman reports that she ran into **Phil Friend** at the Western Joint Computer Conference and learned he is now working for Bissell Bernan in Santa Monica as a systems engineer. Prior to that he was a project engineer on the RW400 at Thompson-Ramo-Woolridge. He is married to the former Paula Goldman from Newton, a Wellesley graduate who is now a market analyst at TRW. . . . **Tung-Po Lin** this fall will be joining the faculty of the math department at San Fernando State College. After three years of industrial experience with the DuPont Experimental Station in Wilmington he decided that the academic world was the place for him. He also mentioned the birth of his third daughter.—**Cornelius Peterson**, Secretary, 65 Sweetwater Avenue, Bedford, Mass.; **Antonia D. Schuman**, Western Associate, Packard Bell Computer Company, 1905 Armacost Avenue, Los Angeles 25, Calif.; **Kenneth J. Auer**, Midwestern Associate, 760 Mistletoe Road, Akron 7, Ohio; **William G. Daly, Jr.**, Eastern Associate, 125 White Street, Waverly 79, Mass.

'59

The warmest greetings from Cambridge. Your old secretary is out of the Army, temporarily at least, and is attending Harvard. I hope in the next few issues to catch up on all the news of our class that has occurred during the last few months. . . . Several months ago I received a letter from **Hal Laeger**. Sorry

for the delay, Hal. After receiving his M.B.A. at the University of California, and a short tour in the Army, Hal went to work for Grey Advertising Agency. This is one of New York's top ad agencies. . . . Hal also writes that **Ed Friedland** is working for Systems Development Corporation in Los Angeles. Thanks, Hal. . . . Congratulations to the family of **Glenn Zeiders**. Glenn and Suzi have taken on a new dependent: Glenn Wilson Zeiders, 3d. The Zeiders now live in Malibu, Calif. Your secretary has moved in with a fellow '59'er, **Al Oppenheim**. Al is working on his Ph.D. at Tech. He is also working as a Course VI instructor. . . . Met the **Widnalls** in town the other day. Both **Bill** and Sheila are still at M.I.T., harpsichord and all!

Attention all Fijis! There is now another fraternity on the Fenway. Three doors down from the Phi Gam house is the new S.A.M. house. Honest, I had nothing to do with it! . . . Due to all my moving about during the past six months, some news sent to me may have been lost in transit. If so, please sit down and let me know. Please note my new address. I'm hoping to hear from everyone during this next year; let's keep this column alive.

From Assistant Secretary John J. McElroy come the following items: Heard from **Adul Pinsuvana** about a week too late for the last spring issue. Now a first lieutenant in the Royal Thai Air Force, Adul says AFROTC training comes in handy. Adul is considering marriage as soon as he tires of bachelorhood and hopes them to honeymoon and study in England. The parting statement in Adul's letter was "If I can write our class secretary all the way from Thailand, what the —is keeping all the other '59'ers from doing the same?" . . . **Jerome Schooler**, now a vice-president of the Flush Metal Partition Corporation, sent me a fact-filled letter. Jerry runs the Class of '59 luncheons at the M.I.T. Club in Manhattan on the Wednesday of the first full week of the month. . . . **Howie Ziff**, who is studying at Columbia Law School, attended the August luncheon. . . . **Roger Blaho** stopped in at the New York Club in a peaceful spirit. He was then at Rutgers being indoctrinated for Peace Corps service in Columbia, South America! Jerome has also lunched with Bill Burke, Edward Hymen, Russell Larsen, Joe Paulonia, Michael Gordon, Mrs. Grace Chin, and Alex Rose.

The sound of wedding bells has been ringing for many of our classmates lately. **Steve Kaye** married the former Rosalie Ann Swartz of Newton Centre last July. He is now in his final year of Harvard Business School. . . . During July **John Swenson** tied the knot with Eva Valencia of Forest Hills, N. Y. John received his master's degree last June from NYU and is now a candidate for a doctorate in mathematics there. . . . **Jim Schattinger** took the big step with Joan Myers of Cleveland. He is now on leave from the Standard Oil Company of Ohio to attend the Harvard Graduate School of Business Administration . . . M.I.T.'s Chapel was the scene of **Paul Silverman**'s marriage to Ruth Gesmer in July. . . . **George Provest** and the former Joan McCallin of

National Alumni Night Leaders and Speakers

NATIONAL M.I.T. Alumni Night meetings, the night of October 19, were being arranged as this issue of The Review went to press. Cities, speakers, and local arrangements chairmen were to include those listed below:

Cities	Speakers	Chairmen	New Orleans	New York	W. R. Watters, '49
Akron	A. G. H. Dietz, '32	W. A. Bednar, '50	Orlando	R. C. Wood	P. C. Hand, '48
Allentown, Pa.	F. L. Foster, '25	R. K. Moore, Jr., '34	Philadelphia	B. S. Gould, '32	R. E. Worden, '36
Atlanta	R. K. Weatherall	F. N. Dickerman, '30	Pittsburgh	G. R. Harrison	W. H. Howard, '44
Baltimore	M. B. Trageser, '51	C. A. Speas, '42	Portland, Me.	C. L. Miller, '51	T. E. Shepherd, '22
Boston	J. A. Stratton, '23	D. C. Arnold, '27	Providence	R. B. Greeley	W. H. Barker, '32
Bridgeport	D. Reid Weedon, Jr., '41	D. W. Waterman, '39	Richmond	William Speer	M. C. Lee, '17
Buffalo	Francis Bitter	J. A. Bergantz, '41	Rochester	Pietro Belluschi	E. P. Kron, '34
Charleston, W. Va.	T. K. Sherwood, '24	R. M. Crawford, '34	St. Louis	W. W. Buechner, '35	M. Witunski, '43
Chicago	E. P. Brooks, '17	J. R. Kirkpatrick, '48	Salt Lake City	R. R. Shrock	J. W. Christopher, '56
Cleveland	H. W. Johnson	Heath Oliver, '55	San Antonio	Peter Elias, '44	W. E. Simpson, '05
Dallas-Ft. Worth	P. D. Wall	R. E. Harrison, '47	San Francisco	E. R. Gilliland, '33	J. D. Rittenhouse, '40
Denver	A. Bush-Brown	B. A. Oxnard, '25	Schenectady	R. L. Bisplinghoff	R. L. Mathews, '50
Detroit	H. G. Stever	W. J. Mast, '53	Seattle	J. T. Norton, '18	A. T. Hengesteg, '55
Erie		R. W. Arentson, '39	Springfield		E. H. Summersgill, '36
Greensboro	M. B. Leggett, '40	A. N. Tingley, '38			K. G. Phillips, '50
Hartford	Stanley Backer, '41	W. S. Wojtczak, '37	Syracuse	Hans Mueller	G. R. Lord, '32
Indianapolis	P. S. Eagleson, '56	P. L. Hotte, '42	Toronto	J. B. Wilbur, '26	B. E. Groenewold, '25
Kansas City, Mo.	M. Wohl, '53	Angus McCallum, '34	Tulsa	Roy Lamson	J. G. Beebe-Center, Jr., '56
		L. L. Robinett, '36	Washington, D.C.	J. G. Trump, '33	H. R. Gordon, '38
Los Angeles	I. W. Sizer	G. M. Cunningham, '27	Worcester	H. M. Teager, '52	

Springfield, Mass., exchanged vows last April 22. The Provosts now make their home in Attleboro.

Bill Rothstein began work this September for his Ph.D. in labor and management relations on a fellowship at the Cornell University Graduate School of Industrial Management. Bill received his master's degree from the University of Minnesota last June. . . . Congratulations are also due to **Stephen Talley**, who received his master of electrical engineering degree from the Polytechnic Institute of Brooklyn, and **Ron Stone**, who was granted a master of science scroll from the University of Vermont last June.

John Bergeron, Buddy Long, John Bracket, Federico Dumas, and Jerome Schooler were seen carrying the '59 banner at Alumni Day in Cambridge on June 12.—**Robert A. Muh**, Secretary, 1200 Commonwealth Avenue, Brookline, Mass.; **John J. McElroy**, Assistant Secretary, 190 Mineola Blvd., Mineola, N. Y.

61

Much has transpired since our parting five months ago. On campus, immediately after graduation, came Alumni Day, June 12. Both **Martin Anderson** and your secretary were there to represent the Class. Summer found 1961 scattered to all parts of the country and the world. Business, the military, travel in Europe, more school—each category claimed substantial numbers according to the information cards given out in May. . . .

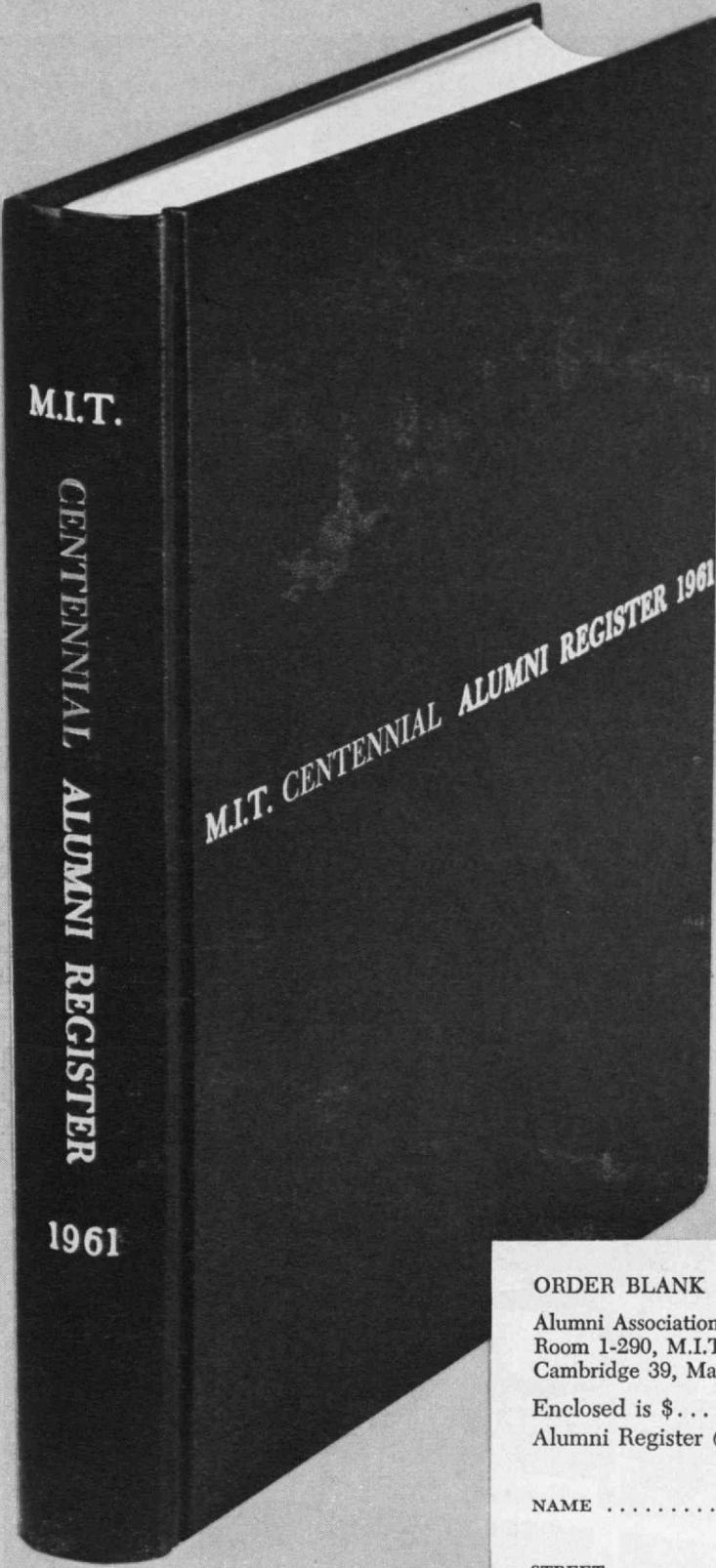
July saw the appointment of two Alumni Fund Class Agents for '61. They are **Ken Kotovsky** and **Grady Harris**. Expect a letter from them sometime this fall, with information on a variety of topics. . . . Two hundred eighty-five people reported via the return postal cards, and 75 people reported that they were staying on for graduate work at M.I.T. The place can't be all that bad, after all.

Thirty-three of our number that we know of have been married since Commencement. Here are the names and details where known: **Haim Alcalay**, **Bruce Bardes** (June 11), **Hamid Bawany** (September), **Charles Bonesteel** (to Miss Anne Greer, on June 3), **Harold Bowers** (to Miss Marie Quinn, on June 10), **Pete Büttner** (to Miss Marianne Babize, on July 1), **Milton Clouser** (to Miss Patricia Smith, on June 17), **Count Curtis** (June), **Donald Easson**, **John M. Ellis** (to Miss Jackie Betz, in July), **Mike Feder** (to Miss June Scotch, June 21), **Lloyd Fisher** (to Miss Virginia Wollinger, on June 17), **Reed Freeman** (to Miss Nancy Bruce, on June 17), **Tom Geers** (September), **Ed Grabowski** (June 24), **Bill Hecht** (to Miss Olive Burke, June 24), **B. Hofland** (July 1), **Frank Incropera** (September 2), **W. T. Jackson**, **Ira Jaffe** (to Miss Brenda Borock, August 26), **William Julian** (June 24), **James Keller** (to Miss Marjorie Coon, on August 12), **Karlene Klages** (June 7), **Fulton Oakes, Jr.** (June 17), **Don Marquis** (June 25), **Gerald Rosen**, **Harry Rosenzweig** (to Miss Susan Shanken, on August 26), **Dewey Ryu** (September), **Arthur Silverman** (June 18), **William Stevens** (August 19), **Stephen Weiner**, **Robert Weirich**

(September), and **G. Edwin Wilson, Jr.**

Al Brennecke, a member of our Executive Committee, who spent the summer working for Procter and Gamble in Cincinnati, got himself a scholarship for a year's study at the Technische Hochschule Darmstadt in Germany. He's doing a year of graduate work there in mechanical engineering, then comes back to the States for work on his M.S. . . . Other members of our class who have distinguished themselves over the summer by acquiring scholarships are **David Sachs** (\$2400 National Defense Fellowship for advanced study and research in physics at Tufts) and **Bob Fisher** (who got an award under the Fulbright Act, to study product design at the University of Oslo, Norway). . . . Your erstwhile (?) secretary spent most of the summer studying German with an American group in Vienna, also found time to do some traveling with **Sandy Wagner, Eric Arens, David Ness, and Peter Burleson**. Ness, our Rhodes Scholar, starts his studies at Oxford in October.

The response to the question on our information card, "Any other comments? Getting married? Engaged?" drew some amusing replies: "I'm already married," was one (wounded dignity). "Not in the foreseeable future," confidently stated a Course VIII man. A onetime Voo-Doo editor, still in character, announced, "I am going to be a head-hunter in Borneo." Why not Pago-Pago, Bob? Said **Ken Singer**, tersely, "Single—spending summer in East Africa." Any connection?—**Joseph Harrington**, 3d, Secretary, M.I.T. Graduate House, Room 212-A, 305 Memorial Drive, Cambridge 39, Mass.



521

pages.

The first book since 1955 listing former students of M.I.T.; published in June, 1961, by the Alumni Association.

51,979

living Alumni

(from Aaker, David A., '60, of Houston, Texas, to Zymelman, Manuel, '56, of Buenos Aires, Argentina)

each with Class numerals, all M.I.T. degrees received, and address, position held, and firm name wherever it was possible to obtain such verified information.

14,668

deceased Alumni

(from Abare, Lawrence P., '30, to Zurwelle, Fred E., '20).

12,646

present and former members of the Institute Faculty and Staff

(from Aalto, Alvar H. H., Architecture, 1940-41, and 1946-51, to Zymelman, Manuel, '56, Center for International Studies, 1958-59).

419

present and former members of the Institute Corporation since 1862

(from Aldred, John E., to Zimmerman, Rufus E., '11).

214

present and former officers and members of the Executive Committee of the Alumni Association since 1875

(from Aiken, Charles W., '91, to Ziegler, Percy R., '00).

M.I.T.

CENTENNIAL ALUMNI REGISTER

1961

ORDER BLANK

Alumni Association
Room 1-290, M.I.T.
Cambridge 39, Mass.

Enclosed is \$..... for copy(ies) of the 1961
Alumni Register @ \$9.00 per copy.

NAME CLASS

STREET

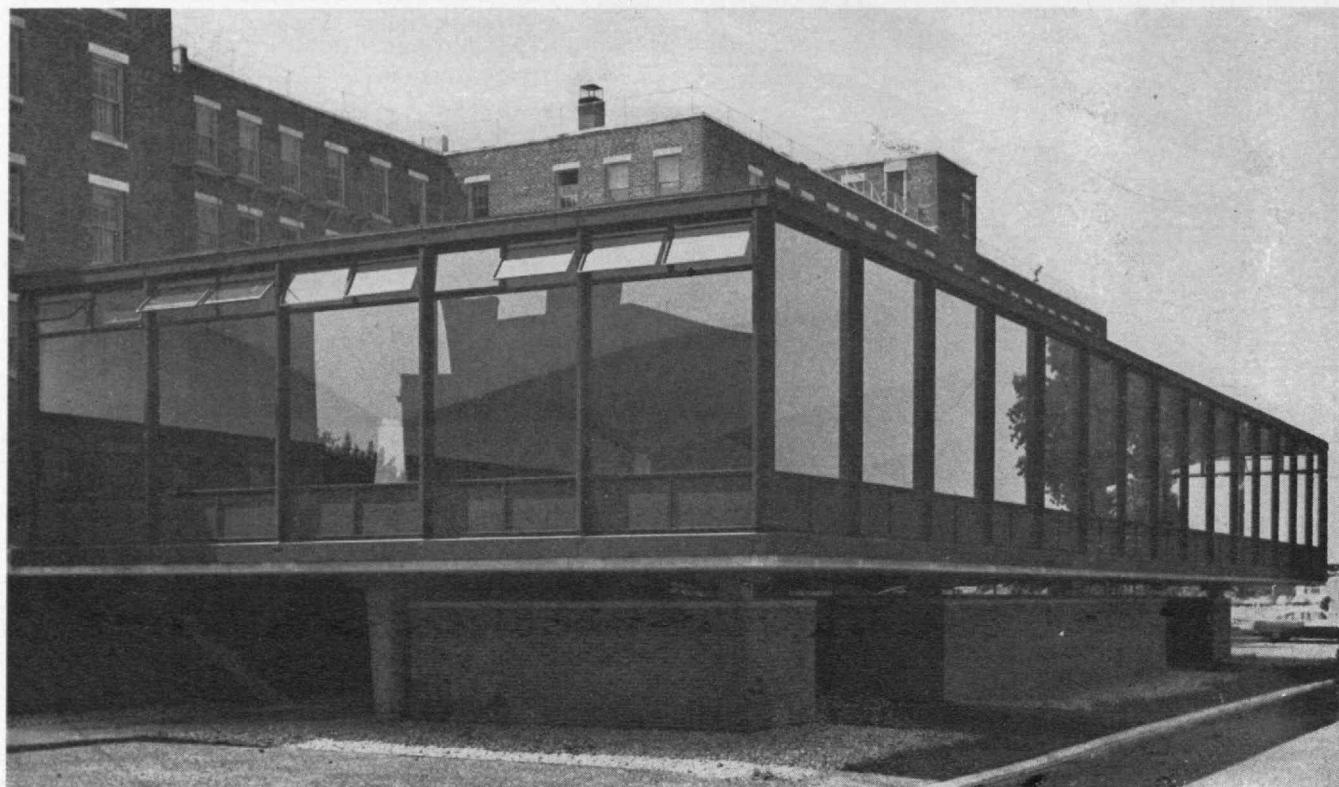
CITY ZONE

STATE

Price \$9.00 per copy postpaid.

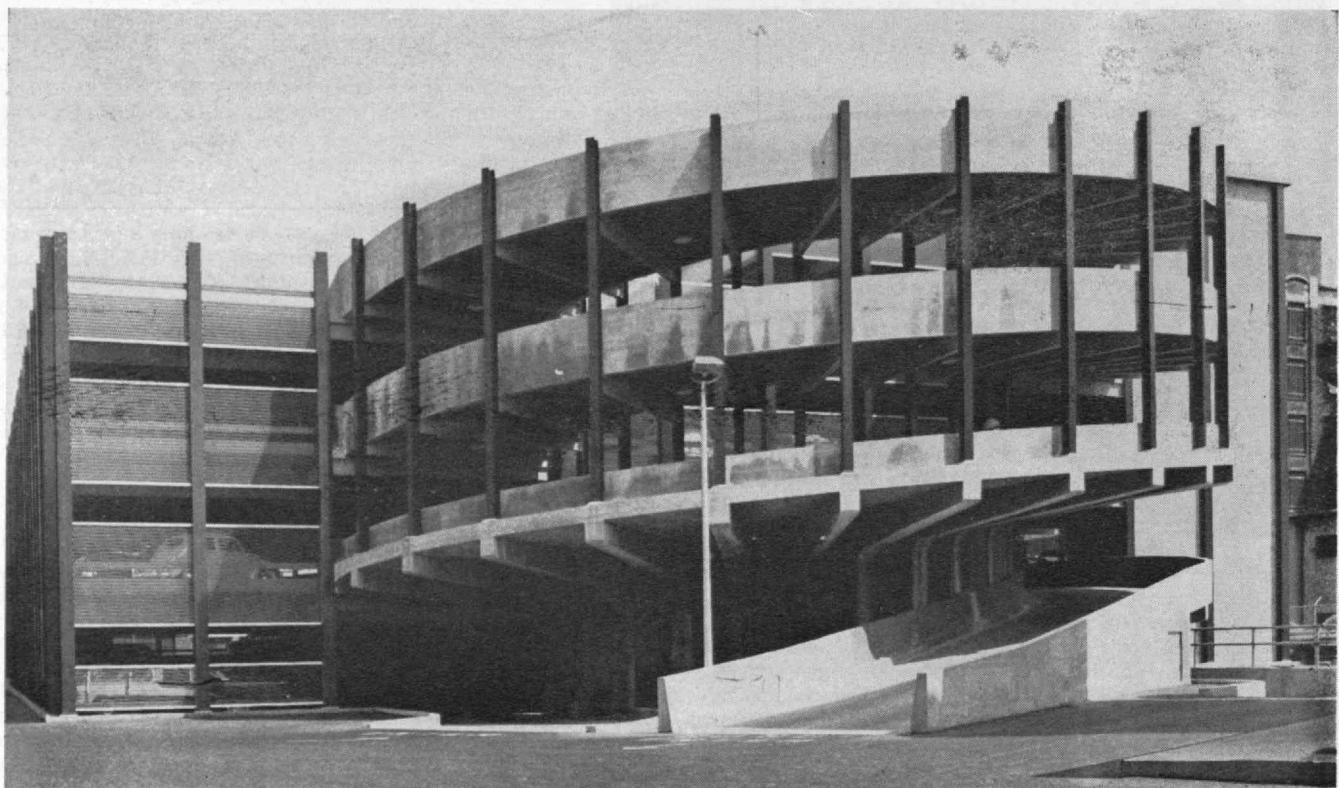
Make check payable to Alumni Association of M.I.T.

Recent Additions to the Institute's Campus



THE NEW DINING ROOM at Burton House, overlooking the M.I.T. playing fields to the rear of the Kresge Auditorium, is the first big addition to such facilities in several years. The 135 by 45-foot, air-conditioned hall is at the level of the second floor of the dormitory and can be reached by exterior stairs. Bicycles, trunks, etc., are stored beneath it. The windows face the playing fields.

THE PARKING PROBLEM has been eased by the new structure on Vassar Street near Building 20. All traffic within this big garage moves in the same direction. Cars are parked along 60-foot-wide ramps, and there are no columns in the main parking areas. Cars leaving the building come down the express ramp which is shown in the photograph below. (But a parking sticker is still precious.)



A KNAPSACK PROCESS

ACETYLENE BLACK



Further information may be obtained from

HOECHST-UHDE CORPORATION

350 Fifth Avenue, New York 1, N. Y.
8204 Empire State Bldg.

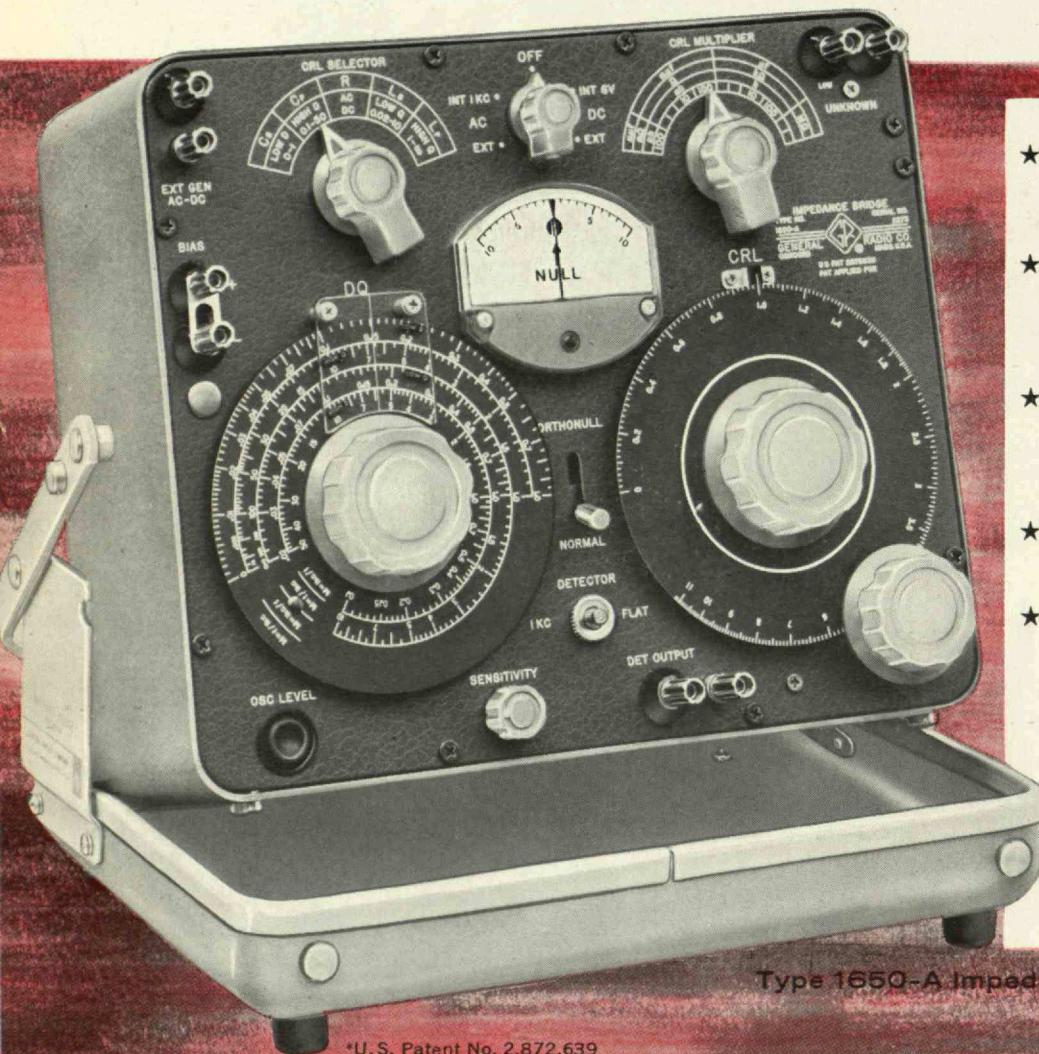
CHEMICAL
PROCESSES

PLANT
DESIGN



A FUNDAMENTAL INSTRUMENT

... useful for measurements ranging from
interelectrode capacitance of semiconductors
to impedance of transformers weighing several tons.



Type 1650-A Impedance Bridge . . . \$450

*U.S. Patent No. 2,872,639

Proven Accuracy • Day-In, Day-Out Dependability
Completely Self Contained • Convenient Operation

Write for Complete Information

GENERAL RADIO COMPANY
WEST CONCORD, MASSACHUSETTS

NEW YORK, WOrth 4-2722
District Office in Ridgefield, N. J.
WHitney 3-3140

CHICAGO
Oak Park
Village 8-9400

PHILADELPHIA
Abington
HAncock 4-7419

WASHINGTON, D.C.
Silver Spring
JUniper 5-1088

SAN FRANCISCO
Los Altos
WHomecliff 8-8233

LOS ANGELES
Los Angeles
Hollywood 9-6217

IN CANADA
Toronto
Cherry 6-2171